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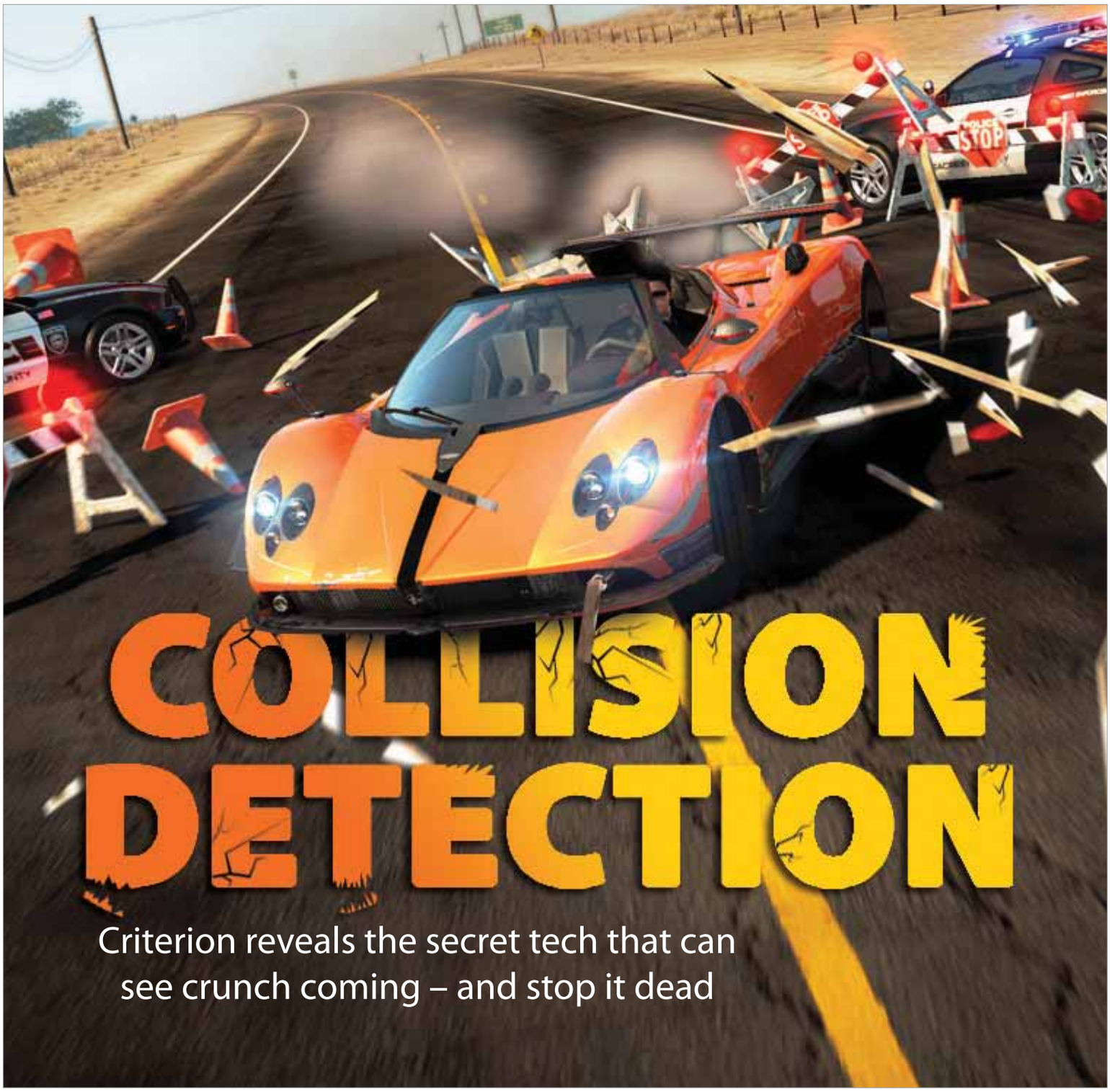

COLLISION DETECTION

Criterion reveals the secret tech that can see crunch coming – and stop it dead

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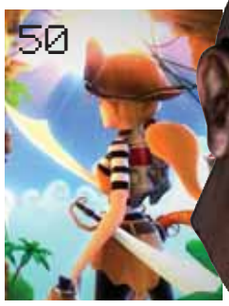

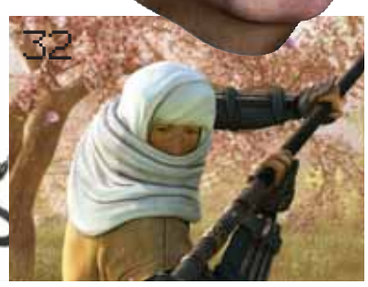

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Editorial

CAPTAIN CRUNCH

Crunch is an infuriating, yet human problem. It sparks raw anger, and real human emotions.

From EA Spouse to the Team Bondi scandal, it has been a recurring issue for modern games development, which has regularly had to balance blind ambition with corporate realities.

Most people, whether you work in a games studio, a shop, or a magazine, will have encountered it.

I'm even writing this column under particularly irritating and pressured circumstances.

Due to matters beyond our control, *Develop* had to postpone its planned cover feature on the Biggest Deal In UK Game Development as the parties involved hadn't actually signed a contract yet.

So we switched to plan B – magazines always need a plan B – and promoted our excellent contributed article from Criterion CTO Paul Ross to the front page at the last minute on a late night.

Criterion, it turns out, seems to have cracked the very emotional issue of crunch, with engineering, and mechanics.

A vault at the studio's Guildford base contains rows of daisy-chained PS3 and 360 test units, autonomously gobbling through code to find errors and bugs.

But it's not an attempt to remove humanity from the process, it's to help support it and encourage it to flourish.

Criterion doesn't claim to have totally solved the problem. Paul himself says 'how can you schedule something as creative as game making?' But it's made an admirable start, which not only saved money, it bought time to actually create and resulted in a much-lauded game. It applied the fundamental technologies that game development thrives on to solving the very problem that often undoes it.

That deserves applause, scrutiny, and should be inspiration for everyone.

Michael French
michael.french@intentmedia.co.uk

Blizzard and Valve

Two of the world's most influential PC games studios want Sony,

by Rob Crossley

GABE NEWELL and Frank Pearce, the respective co-founders of Valve Software and Blizzard Entertainment, have both urged the dominant console firms to create a unified online games platform.

Pearce told *Develop* that it would be "ideal to have a unified online community regardless of the platform that gamers are playing on".

Newell told *Develop* that he's prefer to see the industry "figure out how to make the internet better instead of figuring out how to keep customers off the internet".

"One way is a dead end, the other creates more value," he added.

Freedom offered by online platforms such as Facebook and iOS is widely regarded as key to their success. Developers can rapidly adapt new revenue models, such as free-to-play and cross-game promotions, and have access to near-instant analytical data.

And the seemingly unstoppable growth of mobile and social gaming suggests that tightly guarded online platforms, such as with the Wii and Xbox 360, have lost their appeal to developers.

Demands for online console ubiquity are common within the games development sector. UK studio Jagex had previously requested to host its MMO *Runescape* across the Xbox 360, Wii and PS3 – a bid which was simply denied by some, or all, of the three platform holders.

But the extra pressure applied by Valve and Blizzard, both thought to be making several billion dollars in revenue each year from their PC services, may be a foretoken to a wider shift in policy.

> ***"Gamers want to play whatever game they want, whenever they want with whomever they want. Blizzard has to contemplate that."***
>
> Frank Pearce, Blizzard

Sony has already begun to open its network by incorporating Valve's Steam service on PS3. The company has also allowed Icelandic studio CCP Games to unify PlayStation and PC via the upcoming online title *Dust 514* – a game which communicates significant data between both platforms.

Newell said it is important that Sony finds financial reward for breaking old habits and opening the network for Valve and CCP. But if Sony does find success, that could spur other platform holders on.

Jagex appoints new executive level staff

New COO and CMO assume roles at RuneScape developer

by Will Freeman

RUNESCAPE development studio and publisher Jagex has appointed two new staff to senior positions.

Daniel Clough has now joined the team as chief operating officer, while Wendy Rosenthal has been appointed as the new chief marketing officer.

"I'm very excited to be taking on the role of chief operating officer," said Clough, who previously held roles at Jagex from 2002 to 2009. "Jagex is well positioned to strengthen both its overall games portfolio and player community significantly, and I'm delighted to be able to play a part in making that happen."

"I am really excited to be welcomed into the Jagex team," added Rosenthal, who is to assume overall responsibility for marketing activity and building Jagex's corporate and games brand. "Jagex has been creating amazing games which entertain millions of people across the world for the last ten years. This in itself is a very exciting prospect from a marketing perspective. The company is continuing to invest in great game content for RuneScape and developing and growing other titles, as well as focusing on marketing its amazing content."

Wendy Rosenthal (above left) and Daniel Clough (above right) will serve as Jagex' CMO and COO respectively

"Daniel and Wendy bring a huge weight of experience to Jagex's leadership team," concluded Jagex CEO Mark Gerhard.

want consoles to unite online

Nintendo and Microsoft to break down the barricades that seperate their consoles' online services

For Nintendo's upcoming Wii U online service, the company has said that it is "creating a much more flexible system that will allow the best possible approaches to be used by independent publishers".

But whether any will actually allow rival consoles to start sharing an online space remains to be seen. Newell said such as process is "certainly technically feasible. That's a solved problem."

Pearce said it was "hard to say" if total online agnosticism would become reality, but he remained hopeful that the industry would see more partnerships like Sony's with Valve and CCP.

"One of the things I look at when it comes to the modern games business, is that gamers today want to play whatever game experience they want, whenever they want with whomever they want," Pearce said.

"So I think you're going to see a lot of games experiences that get platform agnostic. Blizzard has to contemplate that."

He added that, from a design perspective, there are legitimate hurdles to overcome.

"If you have a gaming experience on the PC that you want people to enjoy on the console then you may have to adapt components of that experience to different platforms," he said.

"So maybe that isn't so much of a level playing-field. Maybe some games are actually best as a shared community experience rather than a shared gameplay experience. It really is completely dependent on the content of the game itself."

He went on to conclude that Blizzard has "a lot of guys here in the office who are really passionate about the console games space; a lot of people who have a fantastic amount of ideas for the console interactive space. It's definitely something we're going to be revisiting in the future".

Both Valve's Gabe Newell (above left) and Blizzard's Frank Pearce (above) are calling for online unification between home consoles

Wave makes big splash into games

Distinguished sound design firm offering award-winning services to games development studios

by Rob Crossley

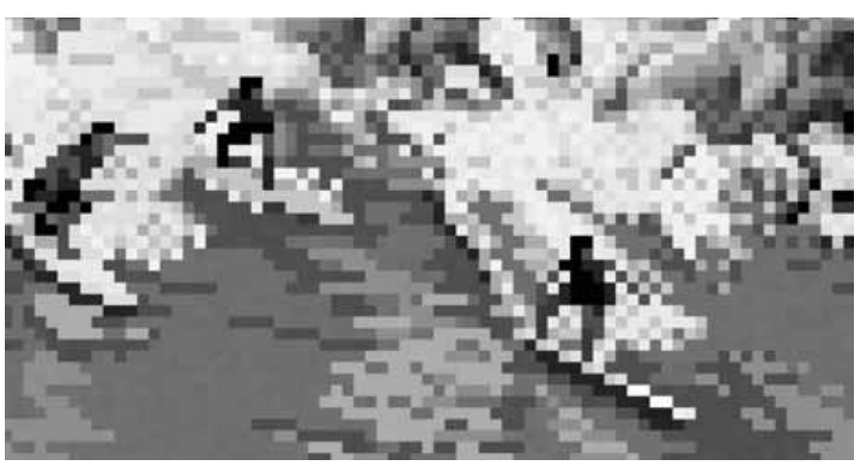
LONDON-based Wave Studios produced iconic ringtone sounds for Skype, and audio for many famous TV adverts such as the Cadbury's Gorilla and the Guinness Surfer – now the group is opening its doors to game development studios.

> ***"The response to our launch tells us we must have got something right, and I'm really looking forward to meeting new clients."***
>
> Johnnie Burn, Wave

"We took the opportunity to grow the company by grabbing an additional floor in our building. Having worked on games in the past and being a gamer, I couldn't resist the idea of a dedicated gaming department within Wave," said company co-founder Johnnie Burn.

Wave is expanding to incorporate a seventh and eighth sound studio. The London base also offers lounge areas for clients to relax or work from.

"The response to our launch tells us we must have got something right, and I'm really looking forward to meeting more new clients over the coming months," Burn added. "Whether we're cajoling a convincing triple-A-worthy vocal performance or creating bespoke sound design for an indie dev, we're utilising all of our previous experience in film, TV, and digital. Our team are delivering a uniquely creative take on traditional game audio and I can't wait to show you what we've been working on."



Wave's 8-bit recreation of the iconic Guiness advert (left), for which it provided the sound

Playgrounds for Optimism

A busy week at Playground Games can see five new staff join. Just what is going on at the UK's fastest growing studio? **Will Freeman** finds out

SINCE BEING founded early in 2010 in the UK's Leamington Spa, Playground Games has enjoyed impressive growth.

In just six months 43 new staff have joined, and the company hasn't even announced its first project. *Develop* sat down with the studio's three heads to talk over what's going on at Playground.

What motivated you to build a studio this large so quickly at a time when many are pessimistic about the strength of triple-A games development in the UK?
Ralph Fulton, design director: There are numerous reasons, but one common to the three of us is that we all wanted to make triple-A games. That's where our heritage is, and even though there is a trend away from that at the moment, that is where we wanted to go. We still believe in high definition experiences that you play at home sitting on your sofa; that's what we do recreationally, and it's what we want to create. There's absolutely scope in the UK to do that.

Trevor Williams, COO: And I think we've probably proven that, by our success in growing the team over the last five months.

Gavin Raeburn, development director: It may seem like a difficult time to start a new development team, but looking back for us that hasn't quite been the case. There has been trouble throughout the industry, sure, but to be honest that's been to our benefit, because we've been able to hire some fantastic people.

> ***"We still believe in high definition experiences that you play at home sitting on your sofa. There's absolutely scope in the UK to do that."***
>
> Ralph Fulton, Playground

And it's your unannouced project that has allowed you to expand so confidently?
Williams: Yes. We kept it fairly tight at just under 20 people until we had the projects signed off.

What has given us the confidence is our partner and our project. We were very focused about what we wanted to do. We got offered quite a lot of other stuff, because we had a team with a great track record. We got offered handheld stuff and other types of games. We were tempted on occasion, but we managed to maintain this real focus.

Fulton: If you look back at why we set up this company up, it's not because of those other things we were offered. We did run lean for most of 2010. You're hearing lots about us now because obviously we're hiring and ramping up. Last year was all about getting this place up and running.

Williams: This ties in with your first question. Was it a bad time to set up a new studio? It's never a bad time to set up a studio if you've got a good team.

Our core, founding group have a track record of making great games. That mitigates the risk. In times when it's tough for the industry it doesn't matter if you have a great team; there's still an opportunity to get out there and do it.

But with so many people joining so fast, it must be difficult to maintain and nurture your company culture?
Williams: We know what we want to get done, and we're strong enough to see that through all the people. Because the founders are some of the leads of the studio, we have a core with a real belief in how we do things. That permeates out.

Raeburn: We hire in our own image as well, so we're hiring people that will be an easy fit into the company. That certainly makes things a lot easier.

The Playground Games senior team (above; left-to-right) Trevor Williams, Gavin Raeburn and Ralph Fulton

Fulton: We put quality first, and I hope that trickles down to everybody here. People have to pay attention to quality here, and have passion. Everyone here is a gamer. That's a prerequisite, and we go quite a way into that in our interviews. People who play games learn from their experience.

Fulton: And the staff buzz we have here comes from the excitement of something that is new, and knowing what we are doing and seeing the plan laid out in front of us

Raeburn: People who come here really want to work here, and we have a really good mix of old heads and new graduates.

So you're not struggling to find good talent being here in the UK?
Williams: Since March we've hired 43 people, and we're actually quite picky. We've had some weeks where five new staff have joined us, but we're definitely picky.
We do turn down quite a lot of people, but everyone we hire sticks. We do get people we're interested in to sign an NDA, and then we brief them on the project we're working on. We don't expect people to come here and not know what they'd be working on.

Fulton: It's a wider UK news story that doesn't get told enough; there are tonnes and tonnes of really high quality developers out there, and they have a real appetite to work on triple-A games. Sure, there's a lot of exciting new things going on in the industry, but there's still a lot of people out there who go into this industry to make the kind of games to play at home on a TV set.

Is it fair to say that in what it offers staff Playground is quite a traditional studio?
Fulton: We're certainly traditional in a lot of senses, but we are very modern in our approach to game development

Williams: Yes. Our processes and the way we build our games is state of the art, but in terms of how the studio is run, we really are very traditional. Everyone works here, rather than offsite.

We do have contractors, which is a little more modern, but they still work on site. So, yes, it is traditional in some ways, but I don't see that as a derogatory term.

> ***"We have this mix of real experience and new talent. We've avoided the journeymen. And we've even hired a couple of people over from Canada."***
>
> Trevor Williams, Playground

And where are you finding your talent? What kind of developers are you looking to employ?
Williams: We tend to employ two types of people. The first is graduates early on in their careers who are younger rather than junior.

People who are smart, switched on and good at solving new problems. Then we've hired a group of big hitters.

So we tend to hire those in the top and bottom end. We have this mix of real experience and new talent. We've avoided the journeymen. And we've even hired a couple of people from Canada. We're getting them back to the UK.

Raeburn: We've founded Playground to be really appealing to people because of what it offers in terms of its size. Really, for a triple-A studio it is relatively small. People enjoy the intimacy and get to work on what is a huge, huge game.

Fulton: That's what UK studios can offer. Speaking personally I don't want to go and work in a 2,000 staff studio with a mall in the middle of it. People love the intimacy and the feeling of family we have here.

Williams: People who wanted to work on triple-A games started to go out to Canada. They could work on the latest *Assassin's Creed* or on something else at a Ubisoft or EA studio, and those companies could drain it because they could offer the projects. There aren't as many triple-A games made in the UK anymore.

Raeburn: I think there are still some great teams here, but they're consolidating. The talent that is left has been mopped up by these larger development teams.

Williams: And the fact that we've been able to create one of those opportunities means we have become a magnet for great people. Rather than go to Canada they can come here to playground.

Fulton: I would add that you can get the impression from the press that triple-A games just don't get made in the UK anymore. That's just not true.

All around the country from Edinburgh to the south coast, you will see triple-A games being made; maybe not quite as many as there were being made ten years ago, but that's the case worldwide.

What does the future hold for Playground? When will you stop hiring?
Fulton: We're a one team studio, and we work on one project at a time, and we'll never have more than 100 staff.
www.playground-games.com

GAMES MEDIA FINALISTS REVEALED

26 writers, 17 print publications, and 20 websites, blogs and podcasts up for a prize

gma gamesmediaawards 2011

in association with GRAINGER GAMES

Last year's GMAs in full swing (above), and this year's host, comedian and The Inbetweeners star Greg Davies (right)

HAVING trawled through over 800 emails and thousands of individual nominations with its sister publication *MCV*, *Develop* here presents the finalists of this year's Games Media Awards. Some 17 print publications, 20 websites, podcasts and blogs, plus 26 individual writers are all up for an award, with a panel of industry judges now choosing the ultimate winners.

The stars of the UK games media sector will be named at the Games Media Awards evening on Wednesday October 26th at the super chic Vinopolis venue near Borough Market. Greg Davies, top stand-up comic and star of The Inbetweeners, will be the host for the evening.

Grainger Games has signed up as headline sponsor of the event, with other sponsors already signed up including Sony, EA, Codemasters, Ubisoft, Microsoft, OnLive, Nintendo, Konami, NCsoft, Rising Star, Namco Bandai, Sega, Trion, Games Tribe and Gamescom.

A limited number of additional packages are available. You can email Caroline@indigopearl.com to find out more.

Up to 350 guests will attend this year's Games Media Awards, including nearly 200 media. A limited number of trade tickets will be available at £99 per person for developers wishing to come along. Contact Kathryn.Humphrey@intentmedia.co.uk to find out more. The finalists of this year's Games Media Awards, in association with Grainger Games are detailed to the right.

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Matthew Castle – *NGamer*
Christian Donlan – Freelance
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Chris Scullion – *Official Nintendo Magazine*

SPECIALIST WRITER ONLINE
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Jane Douglas – *GameSpot UK*
Keza MacDonald – *IGN*
Gillen McAllister – *Game Reactor*
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Phil Harris – *Craigmillar Chronicle*
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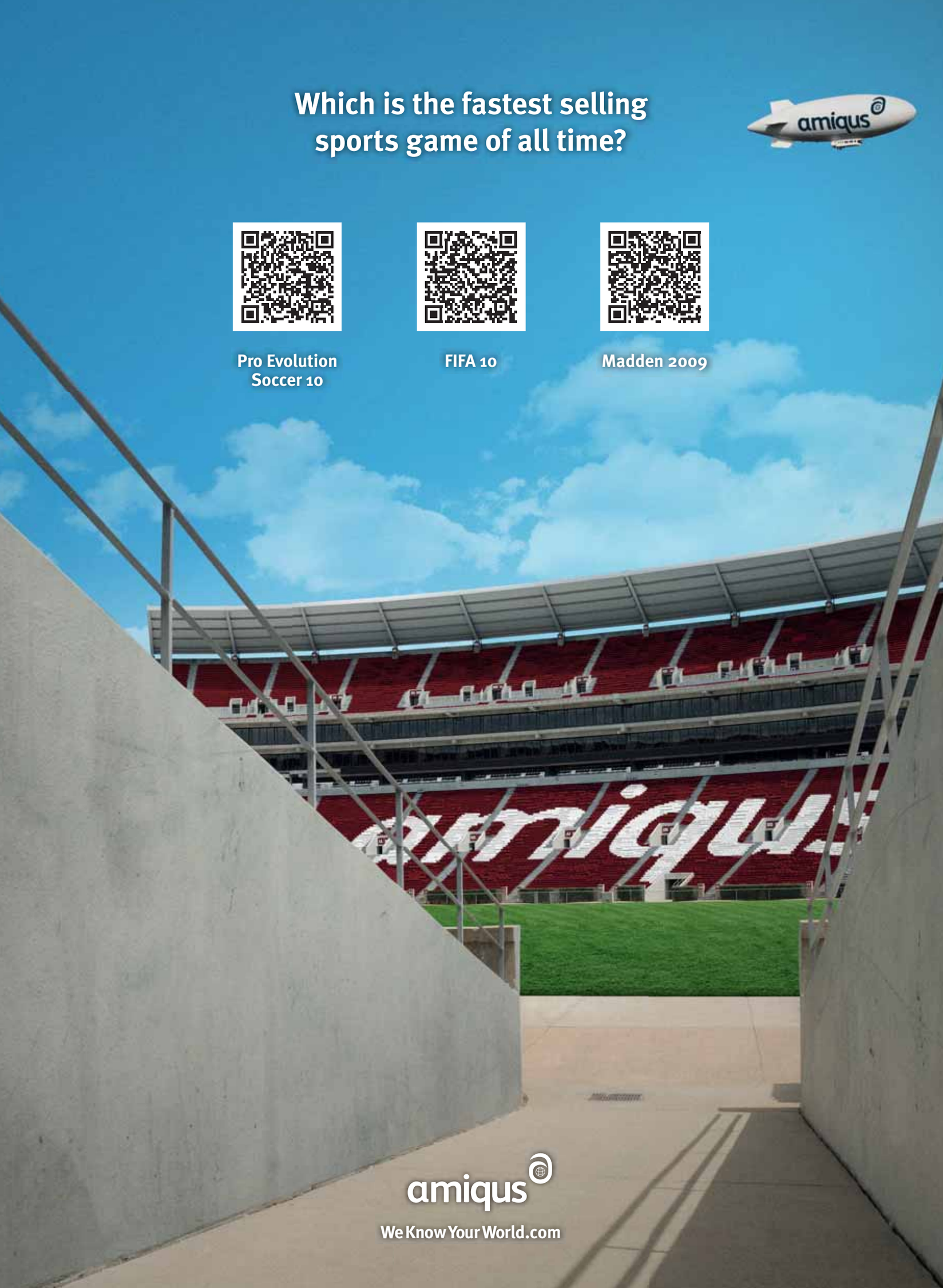
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//COMMENT: BUSINESS

Where will we play next?

by **Nick Gibson**, Games Investor Consulting

Despite the popularity of Foursquare, that we're assured is in use above, many location-based games today are high friction, friend-free and peopled by strangers

OF ALL the new sectors of gaming we've profiled, location-based is perhaps the most under-developed, but also the most exciting.

That's because the genres that will truly popularise it have not yet been created nor the tipping point for mass adoption yet been reached. Fresh from helping a very promising new location-based entertainment venture, I'm going to profile a sector that combines mobile, social and gamification, and is attracting major investor interest.

Most of us in the west will be upgrading to smartphones this year. A third of American adults have them already and half of British mobile subscribers will be using smartphones next year. Usage of online services dramatically increases on smartphone, contributing to mobile data traffic growth of 60 per cent between 2010 and 2011. Unsurprisingly games lead our favourite activities on smartphones, but what about that latent functionality in every smartphone – location tracking? Today, only 18 per cent of smartphone users have used a location-based service like finding an ATM or playing location-based games. Several reasons lie behind this slow adoption.

LOCATION, LOCATION, LOCATION

Firstly, many location-based services are drab and utilitarian. Some, like Foursquare and SCVNGR, are little more than gamified navigation or coupon apps and games designers have had low impact so far. The dominant gameplay mechanism is checking in, which has done little more for gameplay than 'Kilroy woz ere' did for graffiti. Limited gameplay, low social integration and only 10 million registered users hasn't stopped Foursquare recently raising $50m at a remarkable $600m valuation. Leaderboards, points and achievements might have worked for early adopters but there's evidence such services face significant churn once players realise gameplay is paper-thin. A more interesting company moving beyond checking in is Finland's Grey Area, which raised $2.5m in early 2011 for a stylish mobile MMORPG played on real city grids. With solid engagement and monetisation, it hints at the sector's future potential.

> ***"Too few of the success factors that exemplify mobile and social games have yet been employed in most location-based games."***

However, too few of the success factors that exemplify mobile and social games have yet been employed in most location-based games. Foursquare's eco-system of app developers has been limited by its relatively modest active user base. There's too little iterative development, analytics-driven monetisation, and deep implementation of freemium models. Foursquare has turned its commercial eye towards the lead-generation advertising model epitomised by Groupon, all but ignoring the freemium and microtransaction model exemplified by Zynga. I can't blame SCVNGR, which raised $15m with a valuation over $100m in January, for making ~$1m/month from 1,000-plus mainly retail businesses, but there's money from virtual goods/services left on the table.

Location-based games have minimal access to that powerful marketing channel for social games, the social graph. Billion dollar gaming giants DeNA and Gree, and Blackberry manufacturer RIM, are placing massive bets on creating the first true mobile social networks in the west but they are fragmented, relatively unsophisticated and under-utilised by location-based games.

A user experience that should be immediate and relevant to where you are is today high friction, friend-free and peopled by strangers. Location-based games lack the social context of enough friends telling you where they are as well as what they're doing, missing the social momentum that drove Facebook's first great games.

ANONYMOUS IS LEGION

Finally, consumers are pretty spooked by privacy issues at the moment. Anonymity appears a thing of the past, Anonymous has damaged consumer trust and so, when asked about sharing one's location with the world, most of us say no. Mind you, if you had asked most of us in March 2004 whether we'd be happy sharing our innermost thoughts, posting intimate photos, or asking everyone we know to help us play casual games on Facebook, most of us would have said no too. Legislators will regulate this sector more heavily, but we believe that great games will de-sensitise us towards sharing our locations with friends and companies, just as they did on Facebook. Actually, the market-makers of so many recent technology trends – the young – are doing this already. The consumers driving Facebook, Twitter, digital music and microtransactions seem happier to share their entire lives including locations. This key demographic will unlock this market.

So, the right hardware is in the hands of gamers already spending billions on other kinds of games. What we need is game designers free to innovate in this space, not just to port genres from other platforms but to create genuinely new genres that bridge the gap between the virtual and the real world in dramatically new ways.

Rick Gibson is a director at Games Investor Consulting, providing research, strategy consulting and corporate finance services to the games, media and finance industries. **www.gamesinvestor.com**

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*Sources: Arab Media Outlook 2010. Media on the Move 2009. A.T. Kearney. Introduction to Gaming. Michael Moore. Screen Digest. IDC.

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//COMMENT: INDUSTRY

Lies, Damn Lies...

by **David Braben**, Frontier Developments

The currently available video game sales charts make it hard to predict 'broad games' like RollerCoaster Tycoon, argues Braben

STATISTICS are vital to understanding or planning the release of a game, but we regularly see them terribly abused for the purposes of an attention-grabbing headline, or perhaps simply misunderstood.

The most common one in our industry at the moment is 'Games industry sales continue to slide' or similar. Is that true? There is strong evidence to suggest otherwise, but the trouble is we don't really know. If they were to say 'New boxed retail game sales continue to be eroded by the rise of online and pre-owned sales' it might be more accurate, or even 'New game sales at retail continue to slide' – but they don't sound sufficiently apocalyptic, and don't roll off the tongue. Most of the articles I have seen do go on to make the distinction about retail sales in the text, but it is the headlines that get remembered; that get regurgitated by those outside our industry.

COMMON GROUND

The real problem is that there isn't a common reliable source of industry statistics that covers all the relevant sectors. We have NPD, but that only covers a small subset of US retailers. Not including Walmart and other mainstream retailers tends to bias their figures towards 'core' games. They make an allowance for retailers like Walmart, but from my experience there is a significant discrepancy between their figures and the actual sales for broad games like *RollerCoaster Tycoon* and *Thrillville*, where a great many of the sales of such games are in retailers like Walmart, so the actual sales are much higher.

We have the excellent VGChartz.com, but again that only currently has figures for retail sales, so it is quite hard to refute the bold headlines with hard industry-wide sales figures. EA have made bold statements, including that over half of their revenues now come from online, but we are still left with a mix of speculation and anecdote for the rate of growth of our industry.

> ***We do need to have centralised statistics as this is a huge help to planning and forecasting for us all. Hopefully NPD or VGChartz will do so.***

As always there is a devil in the detail. From all available figures (including NPD), sales of PS3 and 360 console hardware units have been steady, if not increasing. Wii sales have fallen dramatically, but then sales of the iPad have more than made up for this.

Don't get me wrong – I think the two events are largely coincidental, with the Wii reaching the end of its natural life as people buy HDTVs.

Most cumulative figures show sales of new shrink-wrapped games at retail are down by about 10 per cent from last year.

Using US figures from NPD, that's down to around $400m.

Now iOS sales alone are reported to have been over $2bn worldwide in the last year, of which about 20 per cent are games (from Tech Crunch), or about $400m. Let's conservatively assume only half of those are in the US, but that figure alone swamps the 10 per cent decay in retail sales.

ONLINE SALES

That is without allowing for PSN, Xbox Live, Steam, and the reportedly huge claims for web-based games through Facebook. And remember that online sales are generally more valuable as more of that money goes to the developers and publishers.

I'm not going to put a figure on what I think the growth is, as that is likely to be just as inaccurate as the headlines I started this piece by criticising. But I will say there is strong evidence our industry is continuing to grow.

Nevertheless, we do need to have centralised statistics as this is a huge help to planning and forecasting for us all. Hopefully NPD or VGChartz will do so.

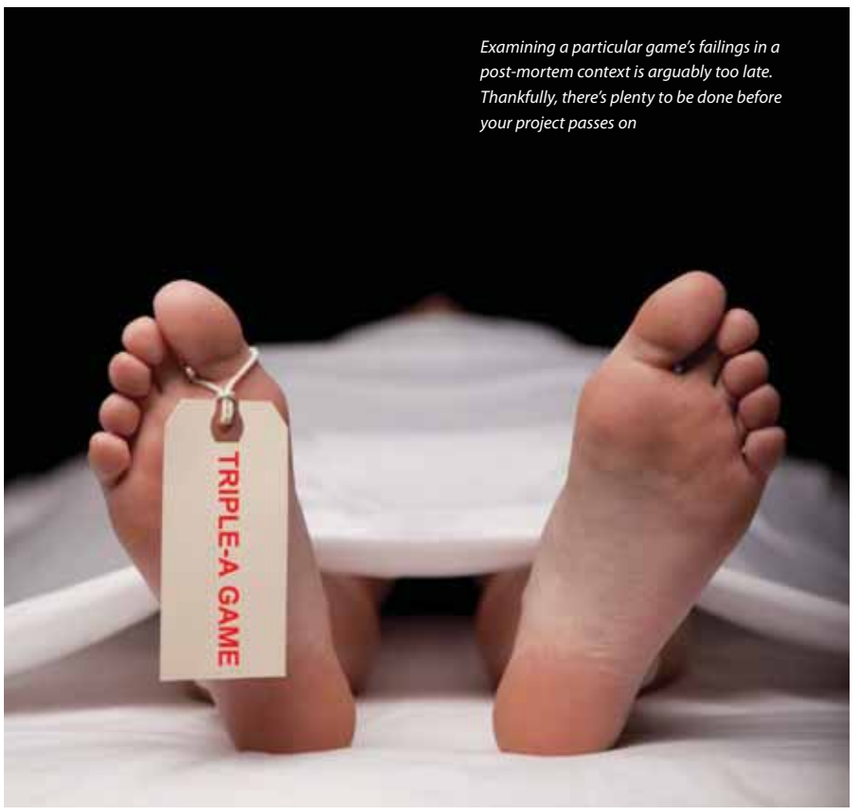
Or maybe someone else is already on the case. Our industry has not stopped changing since I have been a part of it – for a shocking 29 years – and now is no different.

David Braben is the founder of Frontier Developments. Best known as the co-creator of *Elite*, Braben has contributed to a number of other projects including *Frontier: Elite II*, *Thrillville* and *LostWinds*.
www.frontier.co.uk

//COMMENT: STUDIO MANAGEMENT

Don't Wait Until You Die

by **Tim Heaton**, The Creative Assembly



Examining a particular game's failings in a post-mortem context is arguably too late. Thankfully, there's plenty to be done before your project passes on

GAME post-mortems are like the Catholic church's practice of confession.

They're an opportunity to face your sins and disclose them to 'the boss'. Your producer or publisher maybe, who may like to think of themselves as omnipotent, but possibly aren't yet the spiritual leaders of a formal games business religion.

Penance may involve repeating 'we won't do that again' multiple times whilst throwing all the old worthless schedules into the bin. Afterwards you can feel cleansed and start a new project afresh. If you're lucky.

Most team members will have participated in a post-mortem at some stage in their career. Sometimes it consists of simply listing the five most significant things that went right, and the five that went wrong. They're printed in the games development press and published on websites, and give an often-entertaining insight into the tortured process of getting a game to market.

DEAD CERTAIN

But they're a bit hopeless these days don't you think? One problem is encapsulated in the name. I'm no doctor but if you're only figuring out what's gone wrong after death you're probably too late. It may be interesting to know, and further deaths may be avoided, but you are still dead. Or worse – you've overspent on your budget, you've shipped late with a 60 per cent Metacritic, and your offices are being measured up by the latest internet bubble company with venture capital to burn.

In addition, when you read a post-mortem the feeling of déjà vu is overwhelming. Let me tell you the contents of your next post-mortem; you went into production too early, your tech wasn't ready for the content, the key design feature didn't deliver when implemented, and you didn't take multiplayer seriously enough. I know that because I've read all of them, and committed most of the deadly sins myself. Nowadays there's rarely a 'Wow – let me note that down' revelation for us all to learn from.

> ***"If you're only figuring out what's gone wrong after death you're probably too late. It may be interesting to know, but you are still dead."***

And finally, waiting until the end of a project doesn't really address the fact that in most of game development the devil is in the details. It's human nature to diminish some of the trauma and aggravation of prior experience; it's how we move on. I think it must be how mothers are prepared to have another baby, and may explain why we keep ending up with governments we don't really like. So some of the real transgressions are lost in the haze of the last few months of crunch – and you're probably six months late because you didn't start fast enough, not because you didn't finish fast enough.

CLEAR THINKING

So, what's to be done? Firstly you need to create an ethos within a team that is open and honest. One where anyone can be happy to voice opinion, without fear of ridicule or being called a troublemaker.

Secondly, it needs to be a frequent and easy process during development, not at the end. The lower the barrier to entry the more it will be used in an instinctive way. Here at The Creative Assembly we are experimenting with an online system, allowing easy entry of issues, transparency, and a voting system that hopefully highlights the importance of the current issues. We're doing these monthly but can easily increase or decrease the frequency of the voting. Issues are then discussed at team meetings, to give immediate feedback and action work to be done. Anyone in the team can propose an issue, but the wording is very important and, like all 'customer surveys', questions or statements need to be both finessed and clear. Issues range from the scope of the game to the temperature in the studio.

Thirdly, and this is the big one, you need to act upon it. Even when an issue is logically and pragmatically appraised and a decision is made to not confront the problem, the team needs to understand that, and trust that the decision is made in the best interests of themselves and the game. And for those issues that need resolving you need to move fast, and be seen to act. That way the team buys into the process more and more as a positive force for change. Ignoring issues or letting them drift will slowly kill any future willingness to contribute.

So, I'd like to be able to say we have the perfect pre-mortem system in place at Creative Assembly, but we're still experimenting. The online system provides a great opportunity for tracking and evaluating what's really disrupting the team, while it's happening. We'll continue to try and learn from our mistakes, and atone for our sins. One thing's for sure, none of us are infallible.

Tim Heaton is studio director at The Creative Assembly, the UK-founded studio behind the acclaimed *Total War* series of PC games, as well as numerous other works including original and licensed products. **www.creative-assembly.co.uk**

//COMMENT: MOBILE

Don't Be a Crunch Hero

by **Will Luton**, Mobile Pie

The sensation surrounding the crunch at L.A. Noire studio Team Bondi has rightly put development industry working practices in the spotlight

LAST MONTH a certain outspoken analyst posted a video blog on Team Bondi's alleged crunch practices that provoked a Twitter frenzy. At the time I was – stop press – on holiday.

I like outspoken people in the games industry, even when they're wrong. I don't think there are enough of them and we should encourage a culture where people speak their mind.

But crunch-romanticising rhetoric, of which Michael Pachter is not the only champion, is dangerous.

When I talk of crunch, I don't mean the odd extra hour of paid overtime, but of employees coerced to work tens of hours over their weekly contracted time for weeks or months, often unpaid.

Crunch leads firstly to employee burnout and, in extreme cases, relationship breakdown and serious mental and physical illness. A recent study found those regularly working 10-to-11-hour days increase their risk of heart disease by 60 per cent. It is a figure which has not surprised doctors who regularly deal with issues arising from unfavorable work hours.

On top of this it doesn't make sense financially. Beyond even the cost of employee replacement, crunched employees are less productive. The amount and quality of work per hour drops as hours lengthen, increasing production costs.

IS CRUNCH A RELIC?

Phil Harrison commented at the Develop Conference that teams working on service-like games, like we do here at Mobile Pie, have more a 'constant hum' than crunch. A digital minimum viable product release is surely easier than a final physical one? Release soon, continue to build while it's live sounds good to me.

Yet talking to other start-up devs about crunch, many are sheepish. It still exists and rather than crunching to RTM they're crunching to first release, concerned about making a splash in a competitive market.

> ***"If you maintain a healthy work-life balance, you will be more productive, creative and happier when working, which will do much more for your career"***

I believe that crunch exists not because of necessity but because of culture. 'Heroes', as Fried and Hansson of 37Signals call them in the thought-provoking book *ReWork*, pride themselves on long hours and poor work-life balance. Heroes tell people to suck-it-up and get on, because the industry is tough.

This quixotic attitude creates even more heroes and forces people out of the industry, sometime before they've even joined it.

One commenter on the Pachter video says "being someone who has great passion for games and has wanted to work in the industry since I was young, I feel let down... I lost a great deal of motivation".

My advice to GameName – the dismayed commenter – and anyone starting out who encounters crunch is: This is not the norm.

NO MORE HEROES

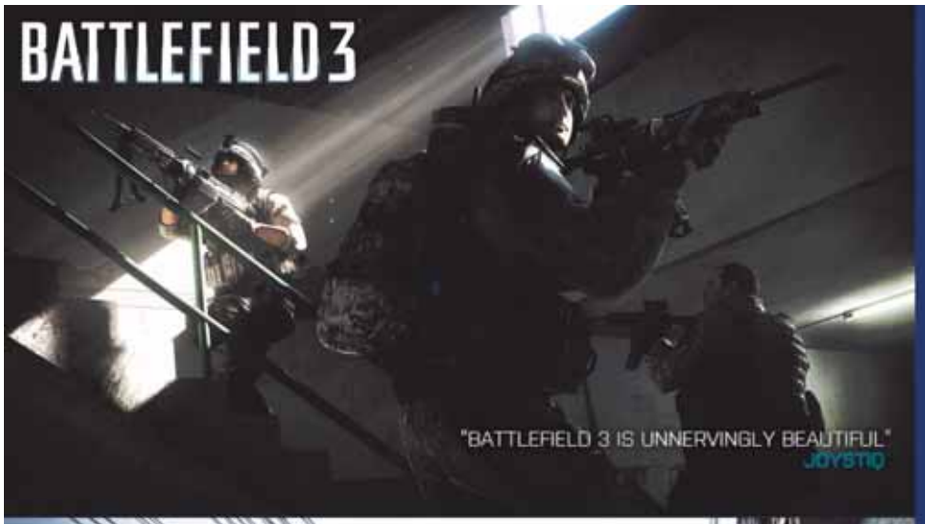
Yes, work hard. Yes, do overtime if it's offered and you want to do it, but show the strength of character to say no when you don't. If you maintain a healthy work-life balance, you will be more productive, creative and happier when working, which will do much more for your career than being tired, unproductive and miserable when turning out the lights every night.

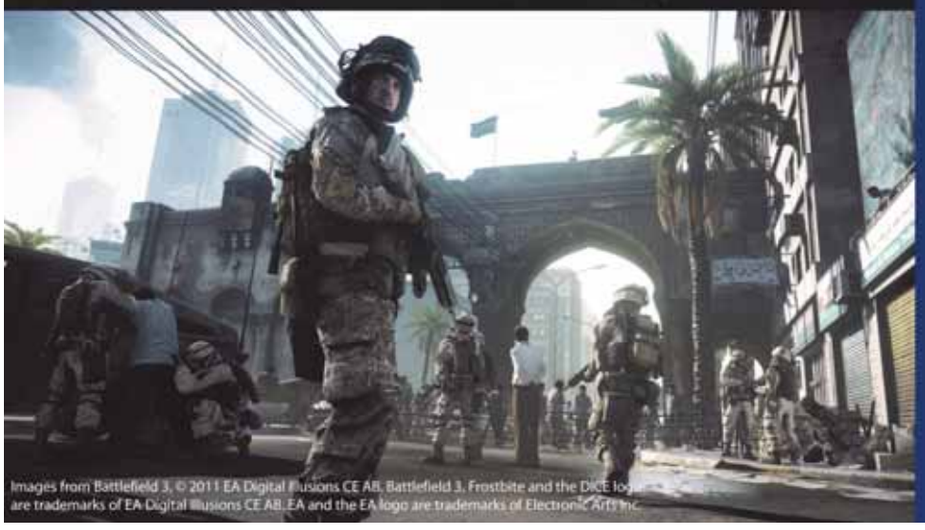
Here at Mobile Pie, as you won't be surprised, we don't do crunch. Few of our employees have ever done overtime during their time here, when they do they are paid or offered lieu. I believe this makes us a stronger team. Certainly we've not lost a single staff member in our three years so far.

Crunch is not and doesn't have to be a reality of any development for any employee as many non-crunch studios prove. The tide is now turning, showing that we can work hard, smart, stay healthy and still produce great things.

Do your bit to stop crunch. Don't be a hero.

Will Luton is creative director at the award-winning boutique studio Mobile Pie. They create delicious own IP and work on licenses for partners including the BBC, Orange and Hewlett-Packard. Follow Will on Twitter at @will_luton, or vist **www.mobilepie.com**





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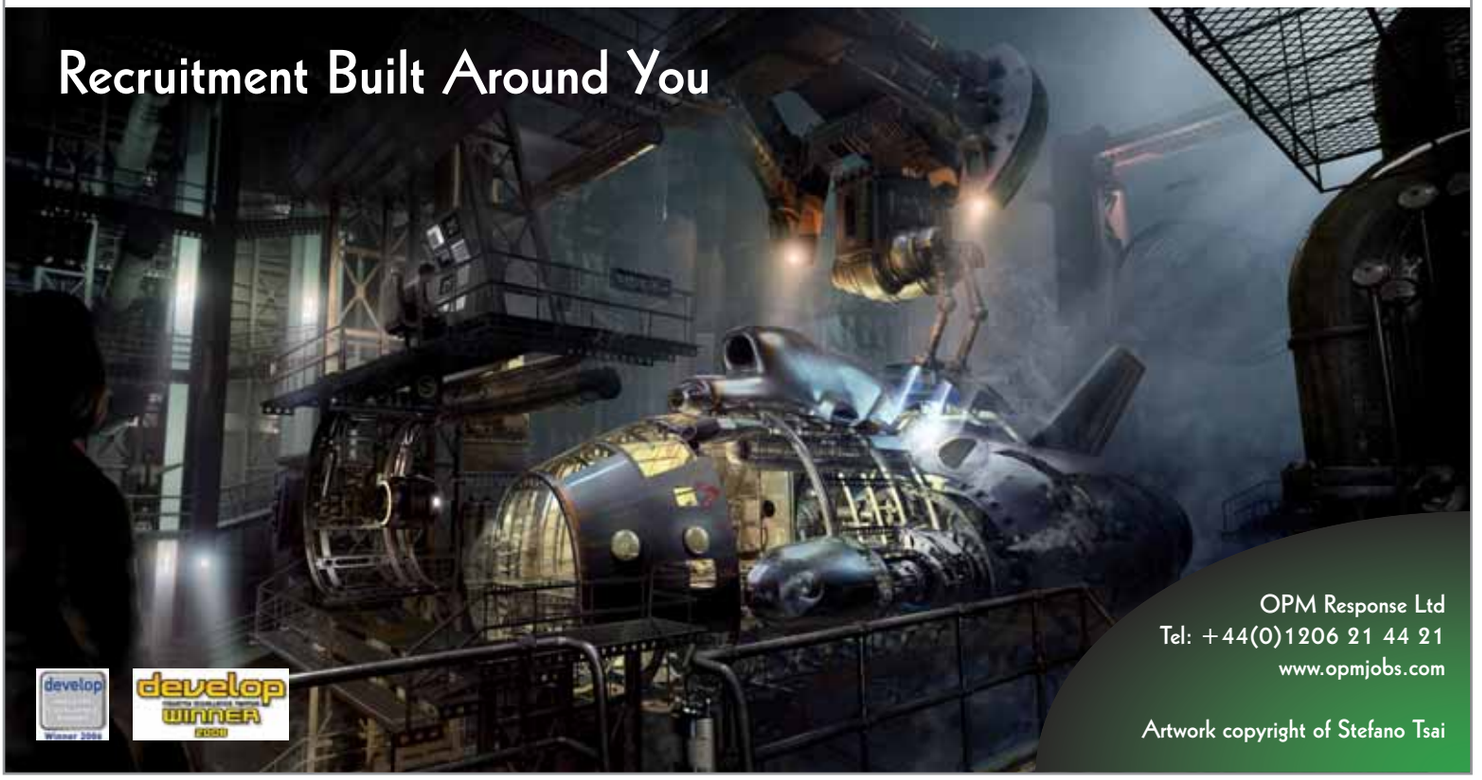

LONDON GAMES CONFERENCE 2011

Valve, Eidos, Lionhead and Sega all heading to UK capital's digital games event

Taking place at One Wimpole Street in the nation's capital, this year's London Games Conference kicks-off on November 10th with another exciting roster of focused discussions and keynotes of some of the most crucial topics the industry faces today.

2011 will also see the inclusion of a new audience participation element to all of the conference's various sessions and keynotes.

A host of top industry professionals and experts has been confirmed as speaking the event. Valve's director of business development for Steam Jason Holtman will be delivering a keynote session on the burgeoning digital retail market. Sega UK MD and head of digital distribution John Clarke will also be discussing the download industry in a seperate sesion.

Also confirmed to present a special audience-voting session on the companies currently winning in the

THE MONTH AHEAD

A look at what September has in store for the industry and beyond

SEPTEMBER 1ST
Independence Day in the landlocked Asian Republic of Uzbekistan. [Insert 'fun' Borat joke here]

SEPTEMBER 2ND
Driver: San Francisco, the direct result of a fatal head-on collision between *Bullitt* and *Life on Mars*, is released.

SEPTEMBER 7TH
Cloud Gaming USA begins in San Jose for two days of talks and sessions on the cloud gaming sector.

SEPTEMBER 9TH
Dead Island is released. Is sort of like Dead Nation and Dead Rising. But, you know, on an island.

SEPTEMBER 14TH
The Develop Quiz is held at the Sway Bar in London. Booze, Q's and plenty of… erm… prizes.

SEPTEMBER 19TH
It be International Talk Like a Pirate Day matey. Hoist the black flag and ready the cannon. Or some such thing. Y'arrrrrg.

SEPTEMBER 20TH
Gears of War 3 is released. War with the Locust Horde draws to its conclusion. Probably with explosions and grunting.

SEPTEMBER 21ST
The International Day of Peace, or the annual day the world is asked to silence it's guns. Don't hold your breath though.

SEPTEMBER 21ST-24TH
The autumnal equinox hits in the northern hemisphere. The long dark evenings slowly return. Yay!

SEPTEMBER 22ND
The Eurogamer Expo 2011 kicks off in Earls Court, London, featuring a students and graduates competition.

SEPTEMBER 23RD
F1 2011 is released. Loud cars go vroom. Eventually one will win. Then the cycle will repeat forever.

SEPTEMBER 27TH
The very first Storytelling and Games Conference 2011 begins in the beautiful city of Vienna, Austria.

ongoing digital revolution, is noted industry analyst Nicholas Lovell.

London School of Economics visiting professor and digital forensics expert Peter Sommer will host a session on security in the connected age – a very relevant topic after the recent industry hacking incursions.

GameStop international EVP Mike Mauler will also be speaking about the company's digital future, and recently crowned development industry legend Ian Livingstone will join Lionhead's Peter Molyneux onstage as the pair deliver a joint talk on the big challenges facing the industry in the years to come. This session will allow attendees to vote on which of the two men's predictions they think are most likely to come true.

All the speakers will be addressing an audience of over 300.

The event starts at 4pm on Thursday, November 10th and runs into the evening, followed by dinner and networking.

THE BIG SMOKE: WHO'S SPEAKING AT LGC

IAN LIVINGSTONE
Eidos

PETER MOLYNEUX
Lionhead/Microsoft

JASON HOLTMAN
Steam/Valve

JOHN CLARK
Sega

NICHOLAS LOVELL
Analyst

PROFESSOR PETER SOMMER
Digital security expert

MIKE MAULER
GameStop

FERGAL SHARKEY
UK Music

London Games Conference passes cost £229 before the early bird deadline of September 30th – contact **Hannah.Short@intentmedia.co.uk** or call **01992 535 646** to book your space. A number of high profile sponsorship opportunities are also available – contact **Lucy.Hall@intentmedia.co.uk** or call **01992 535 646** to find out more.

DEVELOP DIARY

Your complete games development event calendar for the months ahead

GAMES MEDIA AWARDS 2011
October 26th
Vinopolis, London
www.intentmedia.co.uk

Now in their fifth year, the Games Media Awards look set to be even bigger and better in 2011.

The games press community's big night out is set for Wednesday October 26th at the super chic Vinopolis venue near Borough Market. Greg Davies will be the host for the evening.

Winners from ten categories will be voted for by members of the media and industry PRs.

A limited number of trade tickets and sponsorship opportunities are available. Contact Kathryn.Humphrey @intentmedia.co.uk to find out more information.

SEPTEMBER 2011

CLOUD GAMING USA
September 7th to 8th
San Jose, USA
www.cgconfusa.com

THE DEVELOP QUIZ
September 14th
Sway Bar, London
www.develop-online.net

EUROGAMER EXPO 2011
September 22nd to 25th
Earl's Court, London, UK
expo.eurogamer.net

STORYTELLING AND GAMES CONFERNCE 2011
September 27th
Vienna, Austria
stagconf.com

MONETISING MOBILE: NEXT GEN SEARCH AND DISCOVERY
September 28th
London, UK
www.mobile-ent.biz

OCTOBER 2011

GAMES MEDIA AWARDS 2011
October 26th
Vinopolis, London
www.intentmedia.co.uk

GAMECITY
October 25th to 29th
Nottingham, UK
www.gamecity.org

LONDON MCM EXPO
Oct 28th to 30th
ExCeL, London
www.londonexpo.com

NOVEMBER 2011

NEON DIGITAL ARTS FESTIVAL
November 5th to 13th
Dundee, UK
www.northeastofnorth.com

G-STAR 2011
November 10th to 13th
Busan, Korea
www.gstar.or.kr

LONDON GAMES CONFERENCE 2011
November 10th
London, UK
www.londongamesfestival.co.uk

FUTURE GAMING AND DIGITAL CONFERENCE
November 16th
Birmingham, UK
futuregaming.bsp-a.com

DEVELOP LIVERPOOL
November 24th
Liverpool, UK
liverpool.develop-conference.com

DECEMBER 2011

EVOLVE LONDON
December 1st
London, UK
www.evolveconference.com

GAME CONNECTION EUROPE 2011
December 6th to 8th
Paris, France
www.game-connection.com

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INDIE PROFILE

"PC is a safe bet for the future"

The Indie Stone's **Andy Hodgetts** explains why indie PC development was his studio's chosen home

The Indie Stone
Founded: 2011
Headcount: 4
Based: UK
www.projectzomboid.com

ANDY HODGETTS of The Indie Stone – the studio behind undead online hit *Project Zomboid* – has said that the sheer volume of people developing games for iOS pushed the studio towards making PC games.

"iOS seems like a great market, but one thing we noticed was the sheer number of mobile developers out there," he said.

"With a single store to get noticed on, using technology unfamiliar to us, it seemed like it would be difficult. PC has been around forever, and there is already a large community of indie game fans, popular websites, twitter, forums and everything else that means your game is a click away from potential customers.

"It's a platform that's been successfully explored by indie devs for years, and is a safe bet for the foreseeable future."

And Hodgetts is a committed advocate of the indie community that has established itself around the PC.

"It's wonderful to be able to make games that you love – if you're able to fund this then it's the best thing ever," he says.

"For anyone who's worked in the commercial industry and has then gone indie, it's also wonderfully liberating. You're suddenly able to say what you like, announce when you like, do interviews whenever you're asked."

Hodgetts is also enthused by the success stories emerging from PC indie development at the moment, however, and foresees a strong sector future in that direction.

"The '*Minecraft* model' is a spectacularly good way of getting funds to make your game, but if you go that route, for the love of God, don't screw it up," he says.

"It only needs one or two high profile games to collapse horribly with the promised game not delivered, and gamers will quickly lose any faith they may have in the system.

"It's a good system, that would be a tragedy."

The Indie Stone's Andy Hodgetts (above) is a keen advocate of indie PC development

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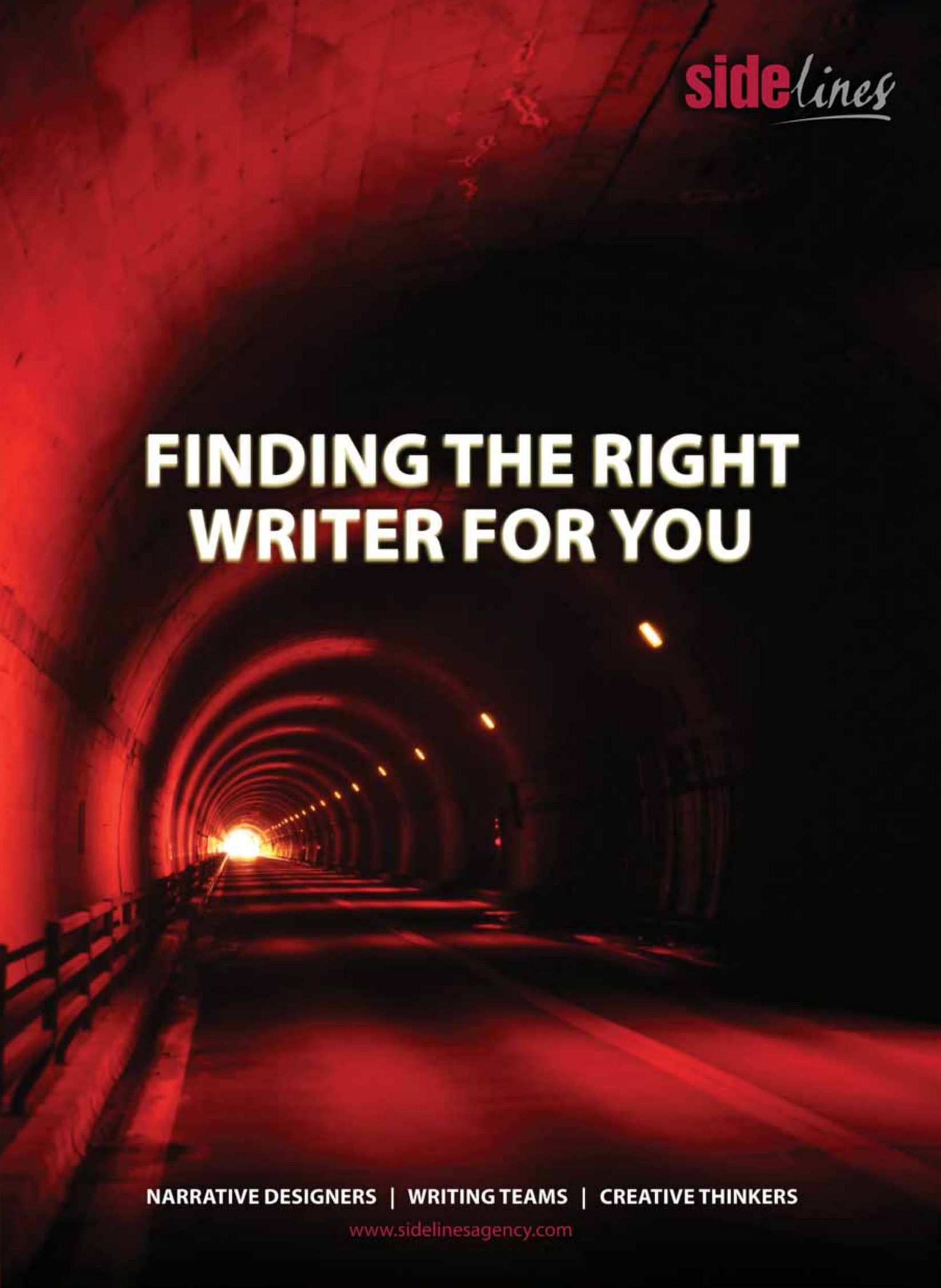
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BETA

DEVELOPMENT FEATURES, INTERVIEWS, ESSAYS & MORE

"The co-pilot was heard to politely mention the plane was flying into a storm."
Robert Troughton, Pitbull, p38

The long evolution of the MMO
p26

Why CGI trailers are good for games
p32

Make better motion control games
p34

Avoiding a crash

Criterion CTO Paul Ross explains how technology has eliminated crunch and project delays at his studio, p22

When it comes

Criterion's CTO **Paul Ross** explains how the studio used engineering to kill crunch

Criterion CTO Paul Ross says crunch can be reduced if studios rethink how they build and schedule games

When I joined the games industry in 1996 crunch was already an established part of industry culture.

While crunch is by no means entirely peculiar to the games industry – junior doctors regularly quote 100-hour weeks – tales still abounded of people pulling all nighters, and everybody seemed to know somebody who worked 48 hours straight.

It's perhaps unsurprising that an industry built and pioneered by young, single people, unmarried and without families developed the crunch culture.

In the mid-'80s projects ran anywhere from weeks to a couple of months. A two-week intensive crunch at the end, to our early forefathers, really wasn't that big a deal.

Unfortunately as the budgets increased, and teams grew, so did crunch; until it started to get very painful towards the late '90s and 2000s. Crunch suddenly started to last as long, and in many cases longer, than those early projects that spawned our industry.

Today the discussion around crunch seems to centre around three main themes.

Theme one is often proposed that crunch comes from bad management. If only the management could be better then we wouldn't crunch. Depending on the context 'better' usually means improved scheduling, or superior design briefs.

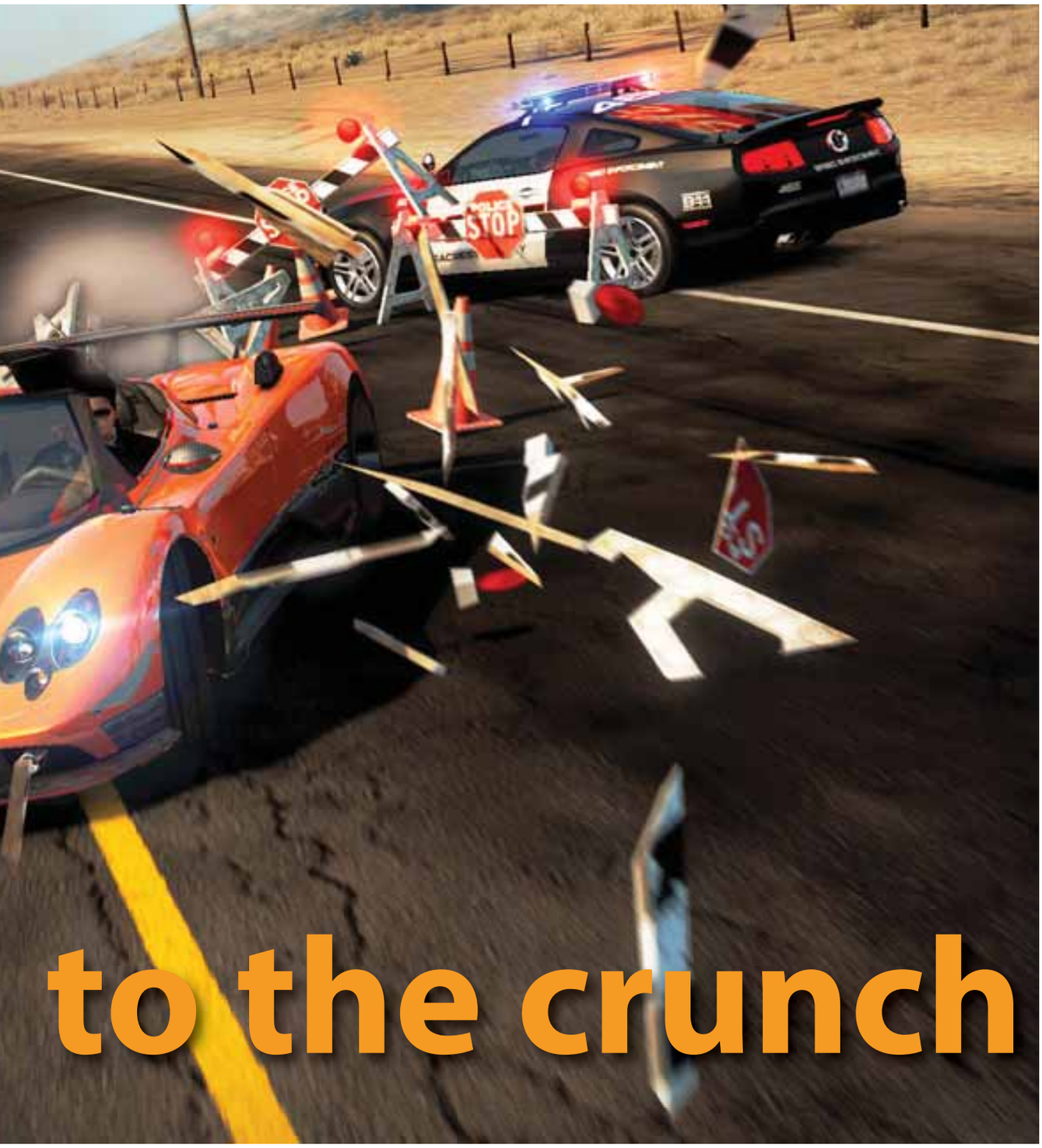
Theme two, the counter point, holds that crunch occurs because people don't deliver what they say they'll deliver, when they say they'll deliver it. You set up a vision, you build out the resourcing, things start to slip, and so everybody ends up crunching to get to where we thought we would be.

The final idea, theme three, is that crunch is some sort of cynical business strategy designed to maximise profits for shareholders.

BAD BUSINESS

The only thing that everybody can agree on is that crunch is bad. It's bad for the team crunching, for whom it's very unpleasant. It's bad for the management running that studio who are suddenly facing the double whammy of a tarnished reputation coupled with a recruitment challenge to cover attrition. It's also bad business practice because the workforce you invested in leave to be 'cheese makers' or whatever therapeutic balm they decide to apply.

The thing is, very few people ever offer practical advice on what you can do to avoid crunch, outside of 'better scheduling'. But how can you schedule something as creative as game making? Sure, scheduling works for



High-end projects don't have to be a car crash, says Criterion, who saved almost three quarters of a million dollars QA costs through better build processes

to the crunch

building bridges, tunnels and houses where it's a known quantity, but the creative games industry doesn't work like that.

In between the blame game there are very few 'if you only did x, y, z then it would all be alright,' that are offered.

Here at Criterion we've made significant inroads in how we can, if not eliminate, certainly ease the crunch process. Our secret to alleviating crunch is to make every second of development count. The more you can keep the production line running the fewer wasted hours your team has to make up with crunch.

Criterion's answer to this was to invest massively in our build infrastructure.

We invested heavily in build servers, auto testing and tools to figure out what was happening during our production processes. By doing this we made our production far more efficient, resulting in savings from our QA bill of around $700,000 for example, as well as limiting the amount of overtime we had to put in to get the BAFTA-winning game *Need For Speed: Hot Pursuit* done.

> ***"We've made significant in-roads in how we can, if not eliminate, certainly ease the crunch process. Our secret is to make every second count."***

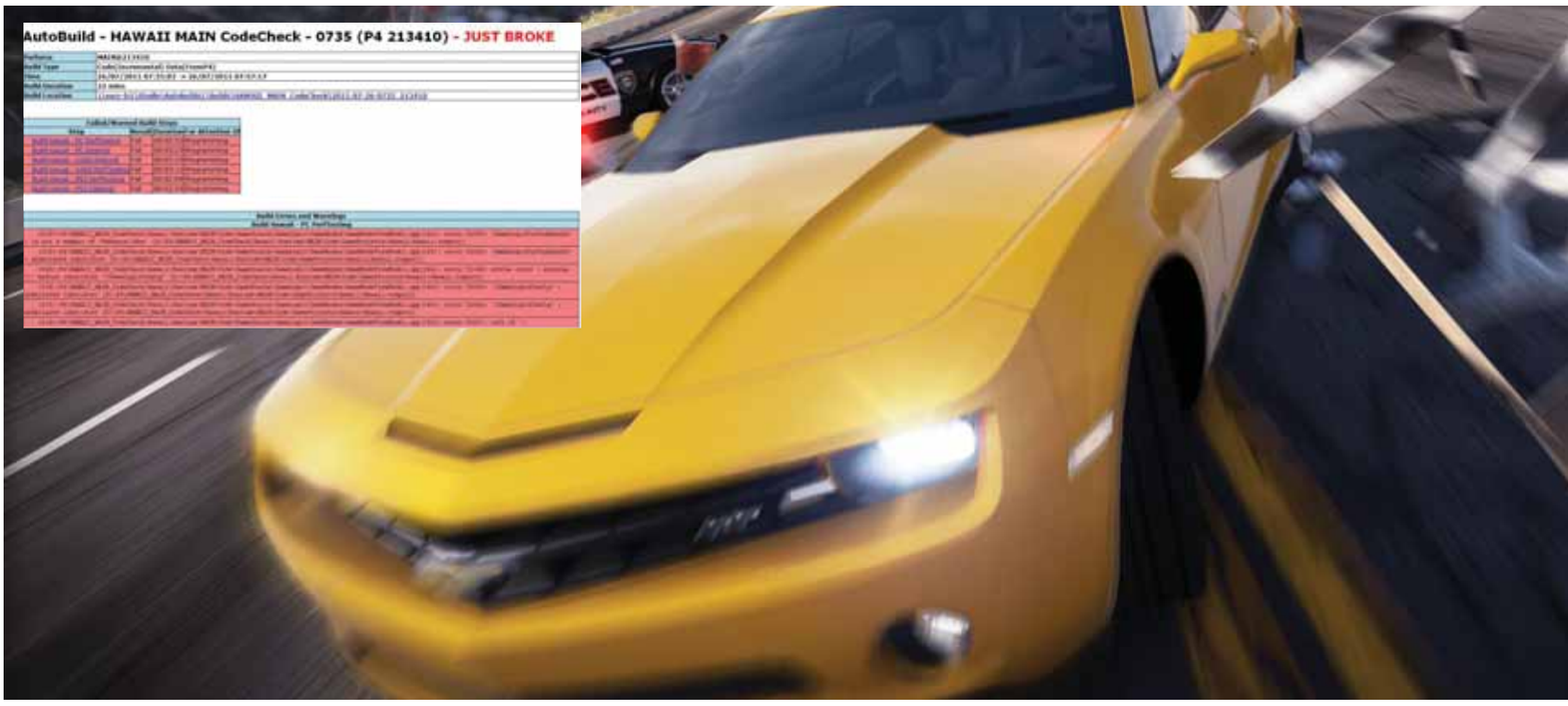
So what form did this take? Well, before you do anything you need to keep the game building. The code, the data and all of the tools have to build at all times. Doing this avoids members of your team getting latest and finding they can't work. Every hour of downtime that you avoid is an hour that you can put into game quality and an hour that you've eaten away from crunch.

In fact, if you have a fatal breakage that goes in and takes out 40 members of the team for an hour each, well that's one week of development for somebody that you've lost instantly.

MECHANISMS OF CHANGE

To keep things building we used two mechanisms. The first are top of the range build servers that constantly churn through the game and all of its branches.

Once you have the game constantly building, you need to inform people when



Criterion built huge test farms of hardware to keep checking code, allowing the rest of the studio to get on with it

they make mistakes. We had a very simple mechanism that involved our build servers emailing people who had submitted changes to a broken build. They could then see what had gone wrong and submit a fix. This basic mechanism keeps the build building at all times.

In the example from our codecheck above you can see we've got our total clean build time down to 22 minutes and in this particular case somebody has checked some code in that fails to build. This can be picked up quickly and a fix applied so that down time on the team is minimal.

Once you have the code and data constantly build the next challenge is to keep everything running together so that when developers, QA and reviewers get drops of the game they have confidence that what they are working with is stable and works. This is where building out large test farms is the answer. A 22-minute build turnaround gives you 15 minutes of tests to run. The larger the test farm, the more diverse the tests you can run in such a short period of time.

We found that peer-to-peer networking was the most brittle, and more likely to break and so we set up our test farm so that we could easily test maximum players on every build. Doing this we managed to test to a higher stress level than QA or indeed, anybody who was playing the game. The net result was that what we produced was stable. We were even finding bugs before our QA team could fix them.

We utilised the email mechanism again to inform developers when something they had checked in threw an assert. Due to this we were always aware of the state of our build and it pretty much ran all of the way through development.

> ***"We managed to test to a higher stress level than QA or indeed, anybody who was playing the game. We were even finding bugs before QA could."***

In this case we have an assert that has been thrown which would be fixed and the smoke tests returning back to 'green'.

If you develop with this mentality, then:

- Your producers can always review the game in its entirety;
- QA fast forward straight to finding explorative bugs;
- Your content creators always have a working build that they can synch to and work on.

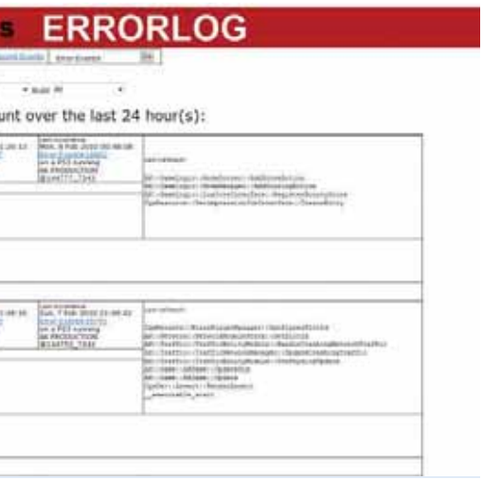
All of this builds development efficiency, saves time and helps to ease crunch throughout the project.

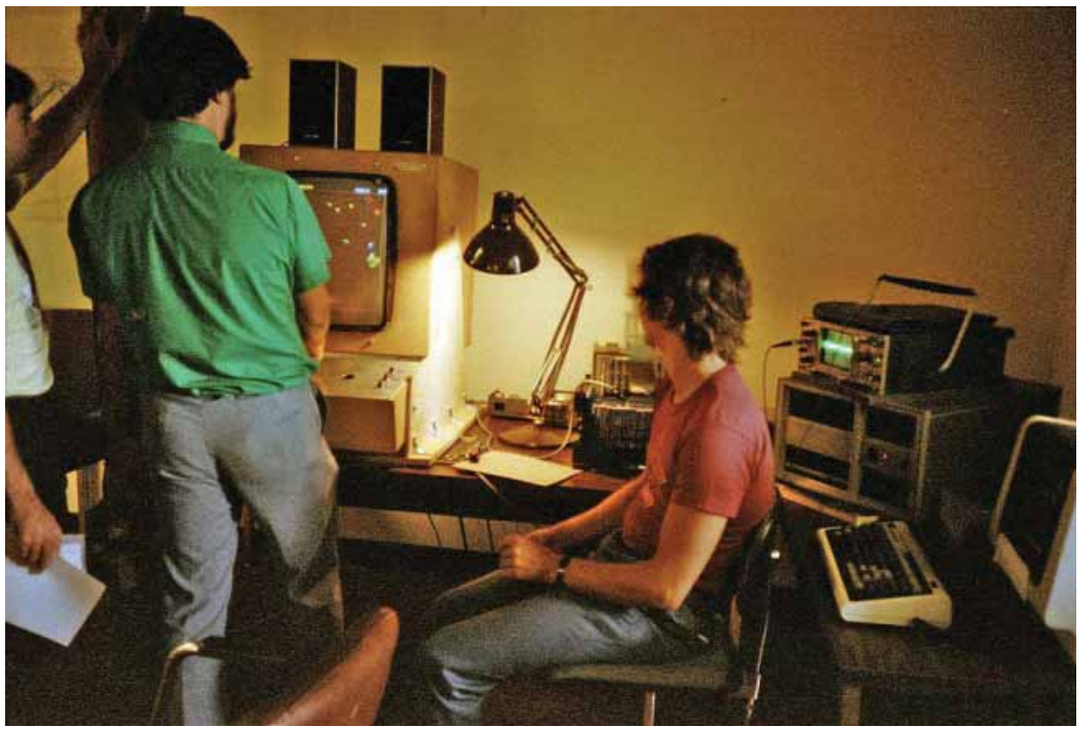
SMART THINKING

Finally, once you have this infrastructure in place you can start to utilise the greater intelligence you have about your production. We logged all of the asserts, and exceptions, to a central database. We then had an idea of when 'seen onces' actually were. The auto testing is generating thousands of hours of testing every day.

We'd know when it went in, and we'd know when it was gone. Due to this we could eliminate those 'hard' – read: expensive – bugs from production.

This meant the final run was simply fixing exploratory bugs, and the class B's & C's which are usually easier to fix and we had many thousands of test hours to mine





Criterion invested heavily in build servers, auto testing and tools to figure out what was happening during its production processes – and saved around $700,000 on its QA bill

To coders in the '80s (see our historically accurate snapshot, above), crunch was tolerable because it was so short, on smaller projects

to see how often something had been seen.

All of this saves the time of programmers who are not looking for low repro seen once because we have active telemetry. This saving is increasing quality and easing crunch. That extra programmer time ripples out to better tools for artists, to make content creators lives easier, and better features implemented in game, to help producers achieve quality goals.

Finally we had a system of working out our team velocity. We simply counted change lists being submitted into the build. It's a coarse-grain measure of how quickly the team is moving, but history has shown the trend to be revealing. Before major presentations we would see a spike in changes.

During the 18 months of production we only went to a six-day week during the last six weeks of the project. During that time we found that the rate of changes collapsed during the weekend. People were in at different times, some couldn't make it, and collaboration was hard under those circumstances. We then adjusted the weekend pattern so that we simply fixed any bugs in the bug database. Change lists shot up again, it's another example of how we made every second of development count based on the increased intelligence that we had on the project.

STEADY GOING

The results? Well, attrition has been at a steady two per cent from Criterion over the past five years. Whilst I won't say that we've completely eliminated crunch we can now significantly manage it. We have a studio with a higher average staff age, who are married and have families. We cut our QA budget in half, we went alpha with only 100 bugs in the database. We managed to focus almost all of our development time on quality. Everybody had a source base that they could work with at all times. We shipped a great game, and picked up a BAFTA for our multiplayer along the way.

> ***"That extra coding time ripples out to better tools for artists, makes life easier for content creators, and better features implemented in-game."***

So much talent is being shipped out to Canada, and the US, that the UK games industry is struggling. We're not creating enough top quality grads to replace those leaving the industry or the country. Despite being a massive exchequer earner for UK PLC, we are in decline. Not due to the quality of our offerings, but due to the decline in numbers of top quality people making great games. Working out how we make games, whilst supporting our talent, is one of the greatest questions facing the UK games industry.

Due to taxation we simply can't compete on an equal footing with North America, and so we have to diversify. Providing healthy development environments seems like a good way of attracting our British talent back to the UK.

www.criteriongames.com

Paul Ross is a veteran at Criterion Games with over 15 years at the studio, working on award winning titles such as the Burnout series and most recently Need for Speed Hot Pursuit. As CTO Paul is responsible for ensuring Criterion stays on the cutting edge of gaming technology.

The Multiplayer

Stuart Richardson meets up with several people from the companies at the cutting edge of the MMO sector to talk

It's an interesting time in the story of MMOs. The proliferation of new platforms and publishing methods that have been altering the industry at large have, after a period in which the genre seemed to remain untouchable, started to have an effect on online multiplayer games. CCP's *Dust 514*, Mojang's *Minecraft* and Wargaming.net's *World of Tanks* are all examples of new and exciting ways to approach the market, which once verged on stagnation in the face of endless clones of *World of Warcraft*, *RuneScape* and *EVE Online*.

There is still a threat of ideas drying up, however. MMOs are making a lot of money the whole world over, and when financials start to hit a certain point, risk becomes a no-go area of business.

"You have to innovate, innovate, innovate and listen to your community if you hope to create future breakthrough content," agrees Jagex CEO Mark Gerhard.

"This is where the small start-up studios excel as they don't have the big budgets required to reproduce the marketing-leading content, so they are forced to innovate. The successful ones release content quick and iterate often, pursuing only what works.

"Content has become ubiquitous and therefore so has choice. It shows with player spending habits and more importantly the amount of time they are prepared to spend evaluating your content before moving onto the next. Core gamers will reward innovation and compelling content with their time and money, as will the masses."

EAST MEETS WEST

Meanwhile, Adam Taylor – industry analyst for game agency Adotomi – muses on the necessity for a different level of quality to break in to the crowded MMO sector.

"There is always room for ideas," he says. The difference between the eastern and Western MMO markets is something that is starting to be felt internationally as well, and Taylor is keen to point out that it must be considered when appraising the potential of a new title.

"I think it's harder to crack the eastern market right now than the West. There's a huge number of MMOs in Asia, half of which no one has even heard of elsewhere," he says.

"It's a mature market as well, and it seems that the flow is mostly from the east to the West, not the other way around. There have been some successes – half of *World of Warcraft*'s subscriber base is in Asia – but in general the West is still the starting place for most studios, especially given the different tastes of the respective audiences."

Matt Daly, the social media director with MMO tech firm BigWorld, sees a significant potential for cross-market appeal, however.

"One of our newest licensees, Globex Studios, is mixing veteran Western

Massive

about massively multiplayer online past, present and future

> ***You have to innovate, innovate, innovate and listen to your community to create breakthrough content.***
>
> Mark Gerhard, Jagex

development, design and business development talent in with a Chinese team, to appeal to both markets with a staggered approach," he says.

"The same is happening with *Realm of the Titans*, which has just recently hit its closed beta in the West, while it has been a success in full-release in Asia – albeit 'full release' has its own distinct meaning in the East. We've been in Asia for a long time, and we see more Western interest in the Asian games market at every annual Chinajoy.

"Of course, the Chinese gold-rush mentality pervades many more sectors than games, but every industry teaches its start-ups the same lessons; in Asia, it's important to have a flexible attitude regarding your product's final instantiation, and very important to make friends."

Online community management software firm Crisp Thinking brings up the point that a shift within the sector from simple multiplayer to overall community focus has really altered what is and what isn't lucrative.

"In the past, the MMO industry has been very much led by the multiplayer model. However, the community side is now becoming a commodity," says CEO and founder Adam Hildreth.

"MMO publishers are learning and adopting the practices of large non-MMO communities which have been around for many years."

As for what this shift will mean for the future of the MMO market, Hildreth has some pretty fascinating ideas.

"There will be a lot faster integration of games and product launches from the same platform. Social integration will also increase," he says.

"Single sign-on will become the norm, anonymity will become less and less, and players will be able to take advantage of cross-game integration. For example, trading,

Wargaming.net's World of Tanks (above), powered by the Bigworld engine, is one of several games currently redefining the lucrative MMO space

"Its harder to crack the Wastern market than the West. There's a huge number of MMOs in Asia."

Adam Taylor, Adotomi

"MMO publishers are learning and adopting the practices of large non-MMO communities."

Adam Hildreth, Crisp Thinking

"The industry is learning its lessons from the casual, mobile and browser-based industries."

Matt Daly, BigWorld

"Core gamers will reward innovation and compelling content with their time and money, as will the masses."

Mark Gerhard, Jagex

"The PR is on big MMOs, however Minecraft and World of Tanks have a significant following."

Richard Leinfeller, Babel Media

but also be required to face cross-border responsibilities. Your actions in one game, will affect your leeway in others."

BREAKING GROUND

Richard Leinfellner, CEO of the international outsourcing giant Babel Media, sees current pioneers within the MMO space as being worthy of more attention.

"Much of the mainstream PR is on big publisher MMO's, however there are others like *Minecraft* and *World of Tanks* who have significant followings," he says.

"In a way this space is where real pioneers are, rather than the companies trying to extend the life of their current cash cows. I expect significant growth to come from outside the mainstream.

"Especially with world of mouth and social networking becoming the driving force for an audience who does not even read mainstream press."

Gerhard agrees, and uses a recent example to back up the point.

"It is clear to see the early success of the iOS was down to the innovative plethora of content available on it," he says. "Although some might argue it's just because the platforms look shinny."

And because of that creativity Gerhard sees the future of MMOs being very bright.

"MMOs are here to stay and their popularity is set to grow and grow," he says.

"More and more games will move not just from single player to multiplayer, but as MMO technology becomes available to all we will see those already in the entry multiplayer space move to MMO.

"I expect in the future MMOs won't just offer entertainment experiences but will become an integral part of your life."

Adotomi's Taylor notes that the social gaming craze, if properly approached, can also be a significant industry boon.

"MMOs are the real social gaming experience. This term, 'social gaming' has been hijacked and really refers to games played on Facebook and should properly be termed 'social network gaming,'" he says.

"This is the great thing about MMOs – true social gaming. In MMOs you can have a true co-operative social gaming experience with other individuals – work towards a shared goal, develop meaningful relationships – ironically, you can't have that on Facebook.

"Facebook allows you to notify others of achievements and manage relationships. For example, you can organise a protest on

> ***"In MMOs you can have a true co-op gaming experience with other individuals you can't have that on Facebook."***
>
> Adam Taylor, Adotomi

Facebook, but you can have one in an MMO, like *Eve Online* did a few weeks back."

Babel's Leinfellner explains that he has already seen a shift in the development community towards the kind of world which Taylor and Gerhard describe.

"The transition to digital online is a challenge for our clients and we do all we can to support them to move away from old style inflexible delivery solutions," he says.

"Most challenges are caused by big companies moving slowly. Even if the management knows the new destination, internal inflexible departments often resist change even when its crucial for survival.

"However it's quite exciting given than two or three years ago less than five per cent of our business was digital. Now it's more than

The MMO space is home to some of the most consistently creative and well-realised content in the development industry (clockwise from top left) Jagex' Runescape, BigWorld's Moego, Sony's Free Realms and Aeria Games' Realm of the Titans

3D Programmer
AI Programmer
Animator
Artist
Creative Director
Designer
Engine Programmer
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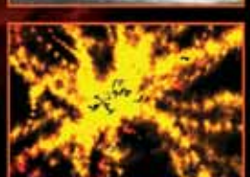

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30 per cent, the pace is amazing and some of the new players on the block don't have the baggage of the older more established ones so manage to get much faster results. As we focus on delivering very cost effective Just-in-Time, it really suits this new economy."

STAY LOW, MOVE QUICKLY

BigWorld's Daly sees agility of access and a wider use of existing technologies as vital for MMOs as the audience expands in both numbers and experience.

"Streaming download solutions like BitRaider – which is integrated into BigWorld's offering and leveraged by a couple of our clients – represent a next-step in the battle to reduce user attrition as the result of client download," he says.

"The industry is learning its lessons and applying things from the casual, mobile and browser based sectors, where the key is agility and under-encumbrance. The developers of rich 3D worlds, like kids at the other side of the sandbox suddenly tired of their old plastic dinosaurs, want to play with the new toys."

Crisp Thinking's Hildreth enforces the position, railing against the culture of long development periods that he considers long since outdated.

"Currently, MMOs are too complicated: to learn, to develop and to download," he says.

"Success in the Western MMO market could be increased if releases of games are brought more quickly to market. Having an MMO in development for six years really is no longer an option.

"The MMO should be tested with real life players at a must faster pace. MMO developers need to adopt agile development, not pay lip service to it."

MMOs are already welcoming audiences who, outside of casual gaming, may otherwise feel left out by triple-A

The overall feeling about the future of the MMO is a positive one, however. Mark Gerhard, who knows a thing or two about the genre, sums up both his respect for the sector and his faith in what it will produce in the years to come.

"Studios should focus first and foremost on making fun games and the profit will follow," says the Jagex boss.

"Just setting out with a mission to make money and trying to wrap some sort of game around will always be doomed to fail.

"Don't start anything unless you are really passionate about it."

> ***"Every industry teaches its start-ups the same lessons; in Asia, it's important to have a flexible attitude to your product's final instantation."***
>
> Matt Daly, BigWorld

THE SHAPE OF THINGS TO COME

Blizzard, CCP and Jagex – arguably the biggest names in the MMO market today – have all forged very individual and very successful business models within the same space. Something about the nature of the massively multiplayer online game allows for this level of creative freedom at a boardroom level. As to what this means for the future of the MMO business, there is perhaps understandably no one single pervading school of thought. Certain words are repeated, however.

"It's really hard to say as each business model has pros and cons, benefit for the customer over the company and so on," says Jagex CEO Mark Gerhard.

"Payment methods tend to be cyclical, the West started off with one-off-payments, then there was a big shift to subscriptions and now the latest rage is micropayments. I expect most companies starting out will go that way for a while and then it will probably go full circle again.

"Genuinely free games will also become pervasive over time as competition continues to grow in this space as it has in many other mature content and entertainment industries. On the other hand the Eastern market started off with micro payments and now seems to be shifting to subscription models and hybrid models, going the opposite way to the West so it is really difficult to tell if one business model will dominant in the years ahead."

Adotomi industry analyst Adam Taylor foresees an on-going shift to the already burgeoning freemium model, though he isn't convinced it will be to everyone's benefit.

"The payment models will have settled. Right now there's a lot of experimentation with buying virtual currencies, free-to-play and pay-to-win strategies, that needs to work itself out," he says.

> ***"The models of the future are likely to be more incremental, allowing for freemium and impulse purchase.***
>
> Adam Hildreth, Crisp Thinking

"I suspect that the subscription model will remain for premium titles, while other games will use the 'freemium' model – funding themselves through in-game purchases of virtual items – or be free-to-play. I think that most developers of serious games understand the importance of steering clear of the pay-to-win model.

"Gaming is about fantasy, about your dreams, about potential. MMOs need to have level playing fields to maintain that sense."

BigWorld social media director Matt Daly extends the notion to including the studios making use of MMO crown tech.

"For end-users playing games, it means free-to-play with microtransactions and/or advertising," he says.

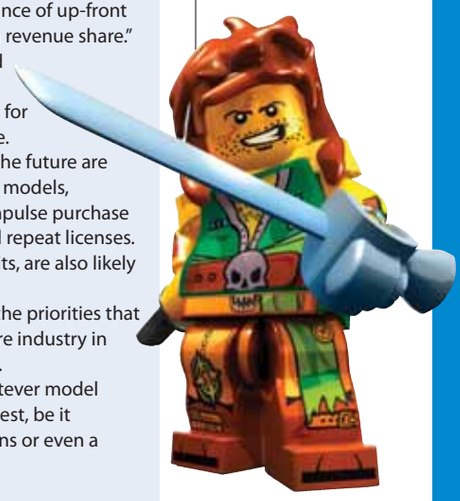
"For our clients, its the balance of up-front licensing costs and long-term revenue share."

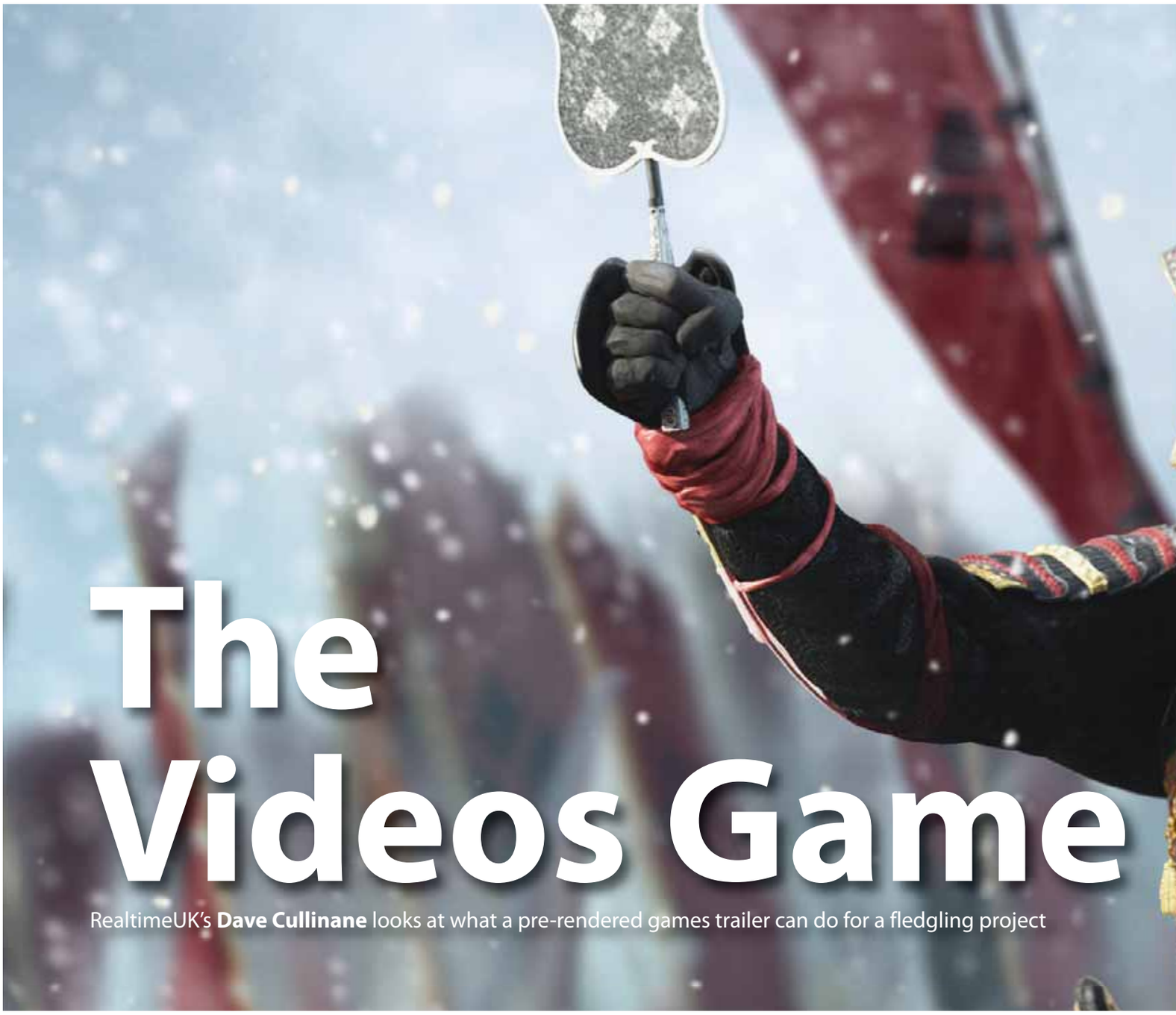
Crisp Thinking founder and CEO Adam Hildreth also agrees, but sees the potential for more just beneath the surface.

"The dominant models of the future are likely to be more incremental models, allowing for freemium and impulse purchase options, rather than fixed and repeat licenses. Sponsorship and revenue splits, are also likely to emerge," he says.

Gerhard though, sums up the priorities that he believes will steer the entire industry in the right direction in one line.

"Crucially it should be whatever model compliments the gameplay best, be it subscription, microtransactions or even a hybrid of both," he says.





The Videos Game

RealtimeUK's **Dave Cullinane** looks at what a pre-rendered games trailer can do for a fledgling project

Realtime UK's account director Dave Cullinane has seen the promotional game trailer become increasingly important

Ever since the first PlayStation shipped with a CD-ROM, developers and publishers have enjoyed a rollercoaster relationship with the pre-rendered video game trailer.

The first console to support streaming video, Sony's successful foray into games helped forge a close synergy between Hollywood and video games that continues to this day. The inclusion of visually rich content helped deliver hitherto immersive experiences that hinted at the scale of what could be achieved in gaming. The fact that it also supplied the marketing department with visually enticing images didn't hurt either.

And it is this sense of dual purpose – marketing versus creativity – that has sometimes led to the games industry's often fractious love-hate relationship with the CGI trailer. At times, there were moments where the trailer was accused of playing too prevalent a role and a distraction from the pure gaming experience. To some, the trailer became an opportunity to add a thin veneer of polish to a product that lacked the technical ambitions of the time.

Fast forward 15 years, PlayStation has technically evolved into a platform that can easily deliver in-game visuals and cutscenes with near Hollywood-quality visual impact;

> ***"Creating an appropriate and effective marketing trailer is only part of the solution to promoting your new title to the target audience."***

often for lower cost, which raises the question 'what purpose does a pre-rendered trailer serve, and what value does it provide?'.

The truth is that creating an appropriate and effective marketing trailer is only part of the solution to promoting your new title to the target audience. It's the purpose for which you use it and the way in which you distribute it that really counts these days.

ALIVE AND KICKING

As proven by this year's E3 and our own internal production schedule at RealtimeUK, the games trailer is still in rude health, the only difference being the value that can be gained from it. The fact is that the CGI trailer continues to be an important ingredient to the recipe of gaming success. Used correctly, scripted appropriately and produced to a high enough quality, can help determine the success or failure of any games project, both during the development cycle and at launch.

To marketing, it provides an invaluable opportunity to convey quality before completion – both externally to the consumer and internally to those bankrolling the project.

To development, it provides an opportunity to realise the initial vision; unencumbered by technical limitations or as

RealtimeUK's work on various materials for The Creative Assembly has helped the games permeate the conscience of the consumer (all images copyright Sega/The Creative Assembly)

yet undeveloped assets or tech. And it is for these reasons why the CGI trailer continues to be one of our most popular services. The days of tacking on a glossy trailer to ship on the disc are over – the fact is that using CGI is still the most versatile way of pleasing the multitude of stakeholders that comes with today's triple-A console development cycles.

Whilst there is a continued demand for our live action and in-game trailers, CGI still remains the preferred solution by the majority of our clients. It is the only means by which a triple-A title's brand and narrative can be distilled into a short piece of video content that isn't reliant on in-game video capture or creates disjointed imagery separate to the game experience.

The only thing that has changed since the early days of PlayStation are the plethora of choices and creative means by which the content can now be distributed. Social media, YouTube, tablet devices and other obvious ubiquitous platforms all ensure that content can reach not only the maximum number of viewers, but targeted ones. It's this kind of pervasive media that has given a new lease of life to the games trailer. Whereas once it may have been regarded by some as unnecessary folly, thoughtful use of creative video content has become a necessary consideration to any marketing strategy. It's especially important given the metrics and data retention opportunities that can help fuel a game's marketing campaign.

THE SOCIAL CLUB

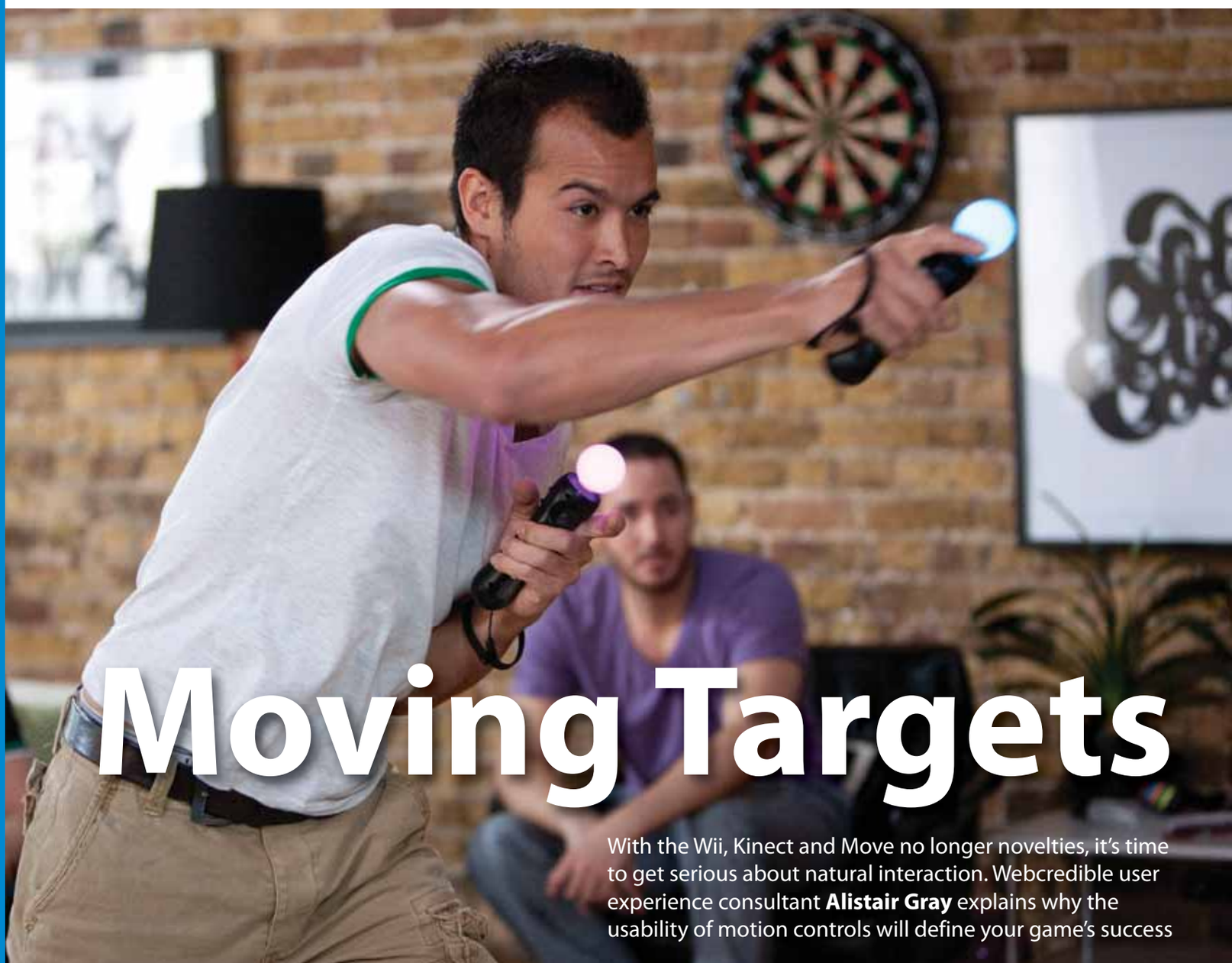
Companies like Sharethrough, who help branded video content go viral, have discovered that users are more engaged with friend-endorsed content and that people who watch a video are more likely to purchase what is being offered than something without any video.

Our own experience of creating content rich websites in the FMCG sector for companies such as Warburtons has taught us much. Creative content not only delights and engages your audience, but can act as an effective driver to securing valuable insight into what your players are thinking. Data retention and customer relationship opportunities should be a part of any marketing strategy, but is especially important to our clients in the games sector who understand the direct relationship between their customers and the digital media opportunities that continue to unfold on a daily basis.

It's all a far cry from the days when an epic CGI video would sit on a game disc only ever seeing the brief light of day before being buttoned through to the main event.

Carefully considered CGI trailers are a huge opportunity that shouldn't be squandered.

Dave Cullinane is account director at RealtimeUK, which specialises in making game trailers, cut scenes and in-game animation, as well as work in branding and advertising. **www.realtimeuk.com**



Moving Targets

With the Wii, Kinect and Move no longer novelties, it's time to get serious about natural interaction. Webcredible user experience consultant **Alistair Gray** explains why the usability of motion controls will define your game's success

Now the novelty has worn off motion control systems like PlayStation move, developers must work carefully to make their games wow the end user

The release of the Nintendo Wii in 2005 allowed people who had never played games before to pick up a Wii remote and join in.

PlayStation Move and Microsoft Kinect then went head-to-head with the Wii and reportedly sold an estimated 18 million consoles combined within the few months of their launch.

It's a huge potential audience, but how do you craft a motion control system that helps you deliver a hit? You can start at the heart of your game's UI, and learn from the platform holders themselves.

HOME SWEET HOME SCREEN

Navigating menus is a crucial aspect of the user experience of a console. It's the one interaction that every player has with a system every time they switch it on. If designed insufficiently it can fast become something that irritates every time you use it. It needs to be smooth and intuitive so that it becomes second nature to the player.

Using the Wii menus is easy as it presents a pretty simple interaction. It uses large button target areas and there's little complexity. Nintendo is working from a position of strength as the Wii has been designed from the ground up as a motion control console.

Both Sony and Microsoft needed to repurpose their existing menu systems to be compatible to motion controls.

> ***"How do you craft a motion control system that helps you deliver a hit? You can start at the heart of your game's UI."***

Sony has chosen to retain its existing PlayStation menu interface when using the Move. This menu is highly complex as it was developed for use with a control pad and so leads to a poor interaction when using the Move controller.

Microsoft Kinect users can use either the existing control pad based menu navigation, a secondary gesture basic control menu, or voice controls. Aware of the design issues involved in attempting to introduce motion controls into a pre-existing interface, Microsoft has introduced a secondary Kinect dashboard accessed by waving at the Kinect vigorously, or using the voice commands.

This ensures that Microsoft does not have to completely redesign the existing menu interface for it hugely popular device.

The menu itself is fairly easy to navigate as Microsoft took the brave decision to significantly reduce the functionality available using the Kinect interface, reducing its complexity.

The Nintendo Wii clearly has the best user experience here, as it has been designed to be a motion control system from the start. Microsoft Kinect does create a better user experience than the Sony Move, as more

concessions have been made to motion controls from the initial design.

The lesson? Build from the ground up for gesture control.

GOOD SPORTS?

Moving on to games themselves, let's compare and contrast the sports games that have championed each respective motion control platform.

Nintendo's *Wii Sports*, released at the end of 2006, is relatively old. Yet it carries its age very well resulting in an enjoyable game with lots of character and few flaws.

The menus are simple yet clear and a real strength is its gameplay. The game's simple enough for novices to pick up and enjoy after a very short amount of time, whilst remaining difficult enough to master to encourage ongoing play.

This highlights the power of motion control and means the barrier to entry is very low. It's also very supportive of new players by offering help to those players who perform the wrong motions during play through help/mini-tutorial screens.

The most significant issue is the unresponsive motion sensing that can negatively affect some of the sports. This is a direct result of the now aging technology used by the Wii, which was relieved but not entirely resolved by the release of a Motion-Plus add-on for the controller now used for the follow up game, *Wii Sports Resort*. The recent demo of the Wii U at E3 has further raised hopes that this issue of accuracy has been resolved.

MOVING ON

The PlayStation Move is able to track movement, including depth to a very high level of accuracy. From a hardware perspective it puts the Wii to shame, but how does this translate to user experience?

The high accuracy tracking of the Move controller means *Sports Champions* can be a very deep game. It requires real skill to play well, yet once again its use of motion controls means it can be picked up and played by almost anyone.

However, *Sports Champions* is a very unforgiving game. Mistakes are often punished harshly and as a result the game can be very off-putting for all but the most committed. Each of the sports is sufficiently complex as to require a tutorial, without which, clarity is lost. Dropping players into levels assuming prior knowledge of the rules of play mean newer players are left unsure what they are required to do. The developers should have considered a simpler model.

WELL KINECTED

Microsoft's *Kinect Sports* is almost the exact opposite of *Sports Champions*. It's a shallow game made to be played in a group. The barrier to entry is very low so anyone can play.

One of the biggest problems with *Kinect Sports* is an issue that will apply across all Kinect games; it needs a lot of space. In order to play with two people, you are required to stand about three meters back from the sensor, which is often very hard to do in the smaller living rooms.

> ***"Currently the Wii continues to offer the best user experience for a motion control console as evidenced by its strong sales figures."***

The depth of the game will be an issue for longevity as all the sports are rather simple. Most players will not be entertained for long on their own, so this is a game to be played with others.

Each game offers a very different user experience but it is *Wii Sports* and *Kinect Sports* that offer the best user experiences in terms of simplicity and appeal to the new wave of players attracted by motion controls.

THE FINAL RECKONING

Currently the Wii continues to offer the best user experience for a motion control console as evidenced by its strong sales figures reaching the tens of millions.

Its biggest contender will be Kinect as Microsoft has put together a great hardware and software package that will be effective in targeting this same market. Sony appears to be after a subtly different group of players looking for a deeper experience and likely to purchase more games than those looking for light, easy play. The appetite for motion control games for these players, however, will be smaller. Perhaps, then, this strategy will prove to be more beneficial in the long-run rather than the immediate.

While Nintendo may have had a head-start, the ever-increasing market of new gamers will always be up for the grabs. The company that emerges triumphant will be the one that seriously looks to improving the user experience of its games and the interaction required to play these games.

Alistair Gray is a consultant at the user experience consultancy Webcredible. Gray is passionate about improving the user experience of websites, and is responsible for implementing a variety of user experience projects including interaction design.

The battle to be the defining gesture control device is far from over, says Webcredible's Alisair Gray (above)

MOVING FORWARD

Up to now the financial benefit of developing a motion control game has been unproven. Beyond mini-game collections and internal Nintendo developments, the Wii hasn't seen the software sales its hardware sales suggest are possible. These anaemic figures imply that either the public remain unconvinced about motion controls once the initial enthusiasm has worn off, or the developers have failed to find the experience players are looking for.

This ripple will in turn affect Sony and Microsoft as both the Move and Kinect are quite simply yet to develop the software to backup the hardware.

Like many other gaming geeks, I was excited to see Nintendo reveal its plans to take electronic entertainment to the next level with the announcement of the Wii U. Reported to be a light, tablet computer-sized gadget, the controller will come with a touch screen in the middle and a camera which will offer users a private screen to view gameplay information that is not shared on the big screen. Users can also swap game play between the big screen and the controller, for instance if someone else wants to watch TV.

This will allow greater flexibility and seems a little like a crossover between a portable and home console, possibly as a result of the new challenge from the tablet area.

Bringing Outsourcing Home

Pitbull Studio managing director **Robert Troughton** ponders the possible rise of localised outsourcing

Pitbull's Robert Troughton (above) beleives localised outsourcing can save studios time and money when producing game art. Right: A sample of Pitbull's own game art

WHEN OUTSOURCING first rose to prominence it was seen as something that would inevitably threaten the livelihoods of game developers, replacing well-paid, experienced talent with cheaper alternatives abroad.

So why, with more and more outsourcing studios popping up in counties like Russia and China, are UK and US companies now looking more locally instead?

To answer this and to address some of the problems with international outsourcing I want to draw your attention to something called the PDI, the Power Distance Index. This essentially defines how underlings – whether in business, family or other – will treat their superiors. Countries with a low PDI, such as UK (35) and USA (40), have a strong belief in equality, those with a high PDI, such as Malaysia (104), China (80) and India (77), don't.

Research was done a few years ago into why plane crashes were happening more frequently in certain countries. While not being immediately obvious, a connection was made to the PDI following a researcher listening to conversations recorded between the pilot and co-pilot of one of these doomed planes. The co-pilot was heard to politely mention the rain ahead as the plane was flying into a serious storm, something along the lines of: 'Is it raining ahead?'

> ***"It's pretty clear why problems occur when outsourcing between low and high PDI countries, and why some countries work together better than others."***

Considering how bad the storm was, this seemed like quite an understatement. But in this particular country, had the co-pilot been more assertive, it would've been an insult to the pilot; how could a mere co-pilot suggest that he or she hadn't noticed the storm ahead? If the co-pilot daren't mention the severity of the weather, though, how likely would they be to suggest to the pilot that they take over flying if the pilot appears tired?

ON TRACK

The connection between this and outsourcing perhaps isn't immediately obvious – but let's consider one of the most important questions that a studio may ask of an outsourcer – whether or not they're on schedule for the current task.

A worker from a low PDI country, such as the UK, would likely be pretty honest. For example, 'I need a little more time – you need to upgrade the source libraries first and reformat the server,' wouldn't be an unreasonable answer. Yet, in the same situation, a worker from a high PDI country would be more likely to give an answer like 'Yes, I don't see a problem with that.' Essentially, they don't want to tell you that you need to do some additional work first – because that could be seen as insubordination for them to not assume that you already know that.

If problems can occur with simple things like schedules, though, imagine a potentially more serious problem where tasks have been specified and the question asked of whether or not they're understood. Again, a worker from a high PDI country is less likely to be honest and tell you that they don't quite understand something – to do so could seem like an insult as it may mean that you didn't explain the task well enough.

Without an understanding of these differences it's pretty clear why problems occur when outsourcing between low and high PDI countries, and why some of these countries work together better than others.

Studios that have taken on external outsourcing like this have typically had to invest heavily in management in order to make sure that work is proceeding well and tasks have had to be split into very small chunks to ensure that it's all tracking as expected. Some studios have even resorted to putting those managers into the country being outsourced to so that they have a clearer view of what's happening. All of this, however, costs money. Outsource managers typically make over £45,000 a year.

LOCAL TRENDS

With per-day rates in China, Russia and elsewhere on the up, along with the aforementioned overheads, question marks have been raised of late about whether or not outsourcing will continue to grow.

A new trend is occurring. One of more localised outsourcing, where the benefits of not having to increase studio headcounts – and 'burn rates' – is met by local specialist studios. While the day rates for these can often appear to be higher, albeit not much, the quality and range of work offered is typically far better – and several can offer a more complete package, reducing the workload of outsource managers. Thanks to the PDI, these studios are also more likely to complete tasks on time and to specification.

Robert Troughton is managing director of Pitbull Studio, which specialises in outsourced programming and art. The studio has, of late, specialised in Unreal Engine 3.
www.pitbullstudio.co.uk

Fully Featured

The Creative Assembly's creative director Mike Simpson knows about making popular PC games. Here he shares some advice on the art of feature-lead game design

The Creative Assembly's approach to design is a little unusual. The *Total War* series of games is 'feature based' rather than 'level based'.

As players progress through the game it's not just new content they explore; they gets to unlock new features with new game mechanics. We often have a huge feature set compared to an average game. That means we don't have as much time to spend on iterating and balancing each feature.

The vast majority of them have to work first time. At CA our design efforts are guided by principles that help to achieve this.

The first is: 'The design is in the detail'. High-level design ideas are easy to generate and almost entirely without value. It still amazes me that in our industry many decisions get made primarily based on the quality of a high-level design pitch. There is little correlation between the quality of a concept and the quality of the outcome.

STYLE AND SUBSTANCE

Almost all of the quality comes from the fine-grained detail of exactly how a concept is actually executed.

We divide design into style and substance. Without style your game is dry and mechanical; players will not get immersed in it. Without substance it's quite simply not a game. Complex games require both style and substance, but designers tend to focus on style or substance, being artists or engineers, but rarely both.

There are perhaps four basic approaches to designing a feature – cut and paste, gut feel, design by first principles and the newcomer – design by metrics. All are valid and they can be mixed.

The cut and paste approach takes a feature that works well in another game and transplants it to your own. It's a concept you're taking, not an implementation, and the 'design is in the detail' principle means that the feature still needs to be re-implemented for your own game. All you get from copying is proof that the idea can be made to work, not that it will actually work in the context of your game and implementation. There are some real risks with cut and paste. It's far too tempting, for example, to pull in ideas from whatever masterpiece you've just played.

> ***"For every choice we put in front of the player there needs to be a reason not to take it. Gameplay emerges in the player's exploration of right and wrong choices."***

'Gut feel' design uses your imagination as a rapid prototyping tool; Take a high level concept and imagine how it might play. Sadly, the brain is brilliant at assessing the style aspects of an idea, but tends to skip over the details where the quality is found. It's great for designing the style aspects of your game, but for core gameplay it has to be combined with iterating; something we don't always have the time to do.

A MATTER OF PRINCIPLE

'Design by first principles' is like 'gut feel' and iteration, but you work out why a concept should work instead of imagining how it plays. It allows us to get complex features more or less right first time, giving strong gameplay without iterating. There isn't space here to go through everything we do, but for *Total War* games, the most important principle is 'counterpoint'.

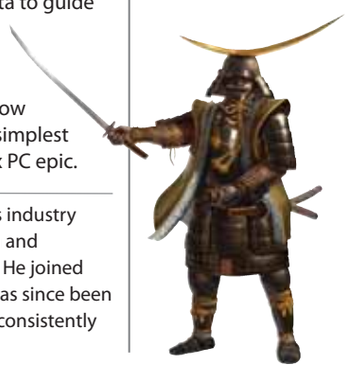
It's the simple idea, at the heart of gameplay, that for every choice we put in front the player there needs to be a reason not to take it. Gameplay emerges in the player's exploration of right and wrong choices. In an FPS for example, taking time to aim carefully will get you kills, but taking too long will get you killed. Every element of every feature can be analysed for counterpoint. If it's too strong, the choice is never worth taking. If it's too weak, the choice turns into a compulsory chore. When it's just right, the feature is balanced.

Our game mechanics designers work in 'counterpoint space', pulling apart and re-assembling the factors that feed into player's choices. This is more like engineering dynamics than a creative process, with positive and negative feedback, damping, lag and so on being considered.

'Design by metrics' is the first addition to the designer's toolbox since the '80s, and we're not ignoring it. Our games are instrumented, and we use the data to guide updates and future designs.

The *Total War* series may be unusual, but I think the basic principles of game design we follow can apply to all games, from the simplest board game to the most complex PC epic.

Creative Assembly's creative director Mike Simpson (above) believes in the worthiness of a detailed design process



Mike Simpson started his games industry career in 1985 creating Spectrum and Amstrad classic *Swords & Sorcery*. He joined Creative Assembly in 1997, and has since been involved at the very heart of the consistently popular *Total War* series

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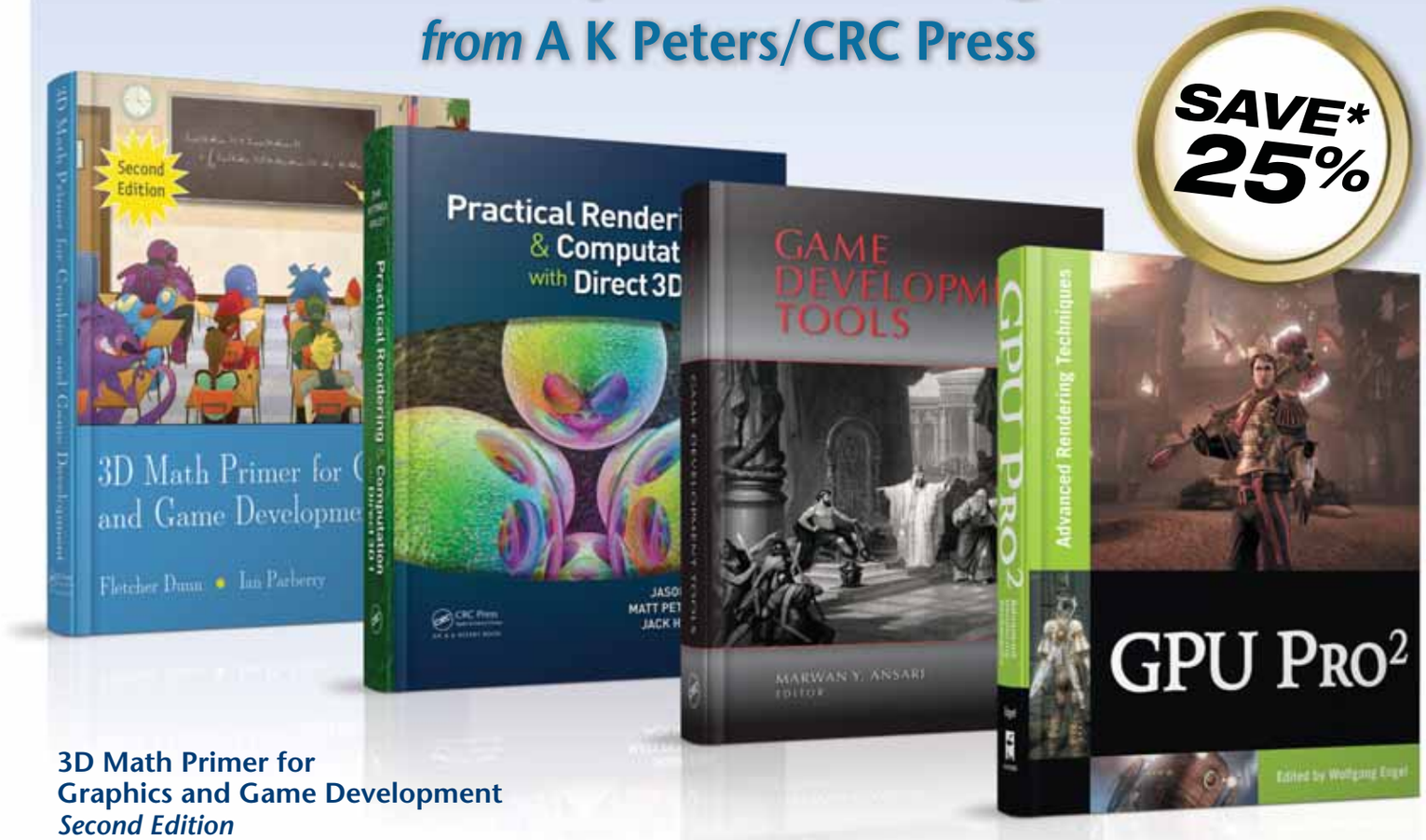

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Playing it Safe

Skrill Holdings co-CEO Martin Ott offers some sage advice on protecting online businesses in the new hacking age

The swift rise in demand for online downloadable content and mobile social gaming has left many developers with a unique problem. Namely, how should they allow their global customer base to purchase online content quickly and safely?

The market for payment options is extremely fragmented once one starts to look outside of the UK and the USA, and the recent Lulzsec and Anonymous hacking incidents have forced developers to think about how they store customer data and manage sensitive payment information.

Consumers are also becoming fatigued and apathetic when it comes to online security. As a result, developers must again instil confidence in consumers that transactions will be quick, easy and secure while not leaving them unprotected.

STORING DATA

A simple way to avoid putting customer data at risk is not to store it internally; working with a third party company to manage your payment solutions online not only allows you to store financial data in a less conspicuous place, with experts who focus on data security 24/7, but also allows you utilise their PCI compliance. The Payment Card Industry Data Security Standard is a set of requirements designed to ensure that all companies that process, store or transmit credit card information maintain a secure environment.

All merchants that store, process or transmit cardholder data must be compliant and many of the largest online payment providers such as Skrill offer 'Level 1' PCI compliance. PCI compliance can then also be communicated to your customers as a mark of security and authenticity.

Skrill recently conducted research which revealed consumers are developing a worrying level of apathy towards remaining secure online because we are bombarded with requests for passwords and security information on a daily basis. On average we are asked for ten or more pieces of information every day, 34 per cent of us forget our passwords regularly and 55 per cent use the same password for every website including internet banking, shopping and social networks.

A simple way for developers to combat this growing 'password fatigue' is to offer digital wallets as a payment option. The digital wallet acts as a security buffer and enables any registered customer to make online payments conveniently and securely without revealing personal financial data. Once a consumer has registered with the service they are not required to enter a raft of passwords and financial details and can purchase online content quickly and safely, boosting retention rates and ARPU for developers. Widespread adoption of a digital wallet also gives you the opportunity to target millions of potential customers via newsletters from providers like Skrill.

Also, make sure you offer all of the right local payment options. Online gaming is a truly global business with huge potential markets in Asia, Eastern Europe and America.

> ***"Consumers are becoming fatigued and apathetic when it comes to online security. As a result, developers must again instil confidence."***

Each new territory that you target opens up new security risks and local payment options to take into consideration.

Be wary of the details on accepting international payment streams. Historically, if you wanted to accept payment options from a territory then you would need a bank account and base of operations located in that territory. This would not only require a larger workforce but would also lead to a delay in processing due to longer settlement times into bank accounts and added exchange rate risks. If you would want to settle Euros from Germany into your bank account, you might have ended up with one or two days waiting until the Payment Service Provider settled the funds into your German bank account, and another two-to-four days (and additional cost) while transferring the funds from Germany to the UK. That gives you three days in which your funds are subject to a lot of Exchange Rate risk.

A digital wallet solution gives you instant settlement of funds in all currencies you'd like and even smaller developers can open up their trade options across the globe.

ANTI-FRAUD AND CHARGEBACKS

Another common obstacle for developers is avoiding fraud; money laundering of virtual currencies and subsequent charge back costs. One of the largest growing areas of fraud online is the money laundering potential of virtual currencies such as Linden Dollars and *World of Warcraft* gold.

By using a payment provider that offers full fraud and chargeback protection the chargebacks accrued through fraud are absorbed via the payment provider and don't eat into the profits of your studio.

With the online payment and security market moving so quickly to meet the demands of consumers and the constant security threat, the mechanics of selling games online is likely to continue evolving. We believe that games developers should be left to concentrate on making games.

Martin Ott is the Co-CEO and executive director of Skrill Holdings who operate the online payment provider Moneybookers, one of Europe's largest online payments systems.

Skrill's Martin Ott beleives developers should be cautious of the details of accepting international payment streams

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Perforce's new SCM in depth

Mark Warren tells Develop why 'version everything' will change software configuration management for the better, p42

EPIC DIARIES: CRYSTALISED'S LATEST UDK PROJECT, p49

Everything possible

With Perforce's next major update imminent, **Will Freeman** talks to Mark Warren, product marketing manager EMEA, about a new approach to software configuration management dubbed 'version everything'

As game development becomes more complex, Perforce's offering is now more relevant than ever for studios lage and small, claims the company's product marketing manager EMEA Mark Warren (above)

How is the way game developers use version management changing?
Games developers have long recognised the need for good management of their development processes and assets such as source code.

However, often the tools being used aren't capable of being used on all of the different content required in modern games such as audio recordings, artwork, video, storyboards, marketing materials and much more.

For complete control, all asset types have to be properly managed and done so in a consistent toolset to reduce complexity and potential weaknesses in the development, build, test and release cycles. This is what we mean by 'version everything'.

At the same time, the games are getting more complex, requiring contributions by large teams in multiple locations, and often in different organisations. This is increasing the need for managed changes to the assets over an extended period of time. Where developers have been using some version control tools in the past, they've often hit limitations in performance which has severely impacted their ability to control changes effectively.

Can you explain the new strategy and product roadmap Perforce has conceived in response to those changes?
Perforce has been built since the very beginning – over 15 years ago – to be very high performance and capable of managing large binary objects – all the attributes that games developers need.

Building on this experience, Perforce recently announced further evolution to extend the support for distributed teams with federated servers and the new 'Sandbox' capability; the ability to create private, local branches for offline or protected work areas which can easily by synchronised with the rest of the team when needed. These are new features in testing and will be seen in Perforce releases over the next six-to-12 months.

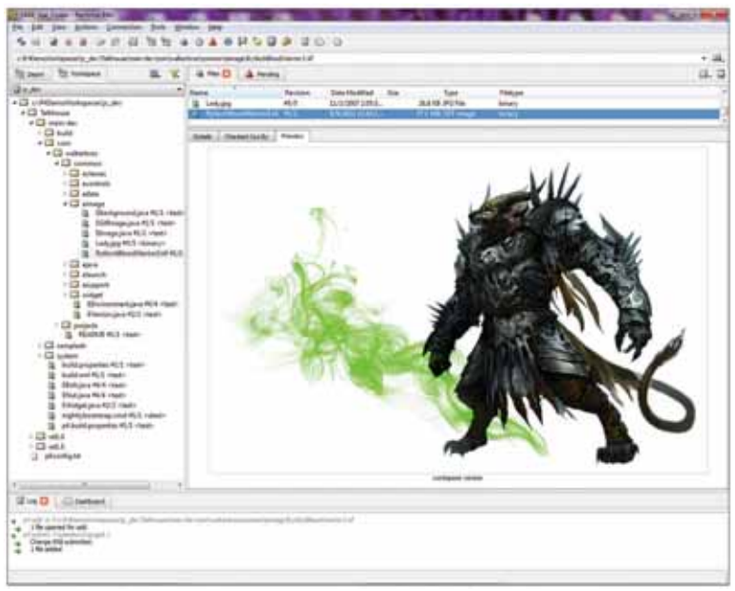
> ***"For complete control, all asset types have to be properly managed and done so in a consistent toolset to reduce complexity."***
>
> Mark Warren, Perforce

So what is meant by Perforce's concept of 'version everything'?
As we've been talking about, games developers have to work with many different types of assets to build great gaming experiences. Being able to manage all these different asset types in a consistent style yet still providing integration with the critical tools used by each of the contributors to the project is vital to ensure best practice by all the team members.

For example, a programmer might use the integration with Visual Studio, whereas an artist may use the integration with Photoshop or Maya.

And how is Perforce working with its existing game developer customers to realise its future vision?
Many customers are already managing their non-software assets in Perforce. By adding new capabilities such as Chronicle, Perforce's new web content management system built on the Perforce platform, we can extend our customer's usage to new teams. For example the owners of a game's website or forum could use Chronicle.

Why is the Perforce product roadmap's emphasis on 'Streams' particularly relevant to game development studios?
Version management can be really simple, but it can also get complex very quickly. Streams offers a simple set of rules that provide some best practice guidance when managing changes. One way of thinking of it might be to consider Streams as



Perforce's software configuration management (above) has been pivotal to the development of titles like Guild Wars (left)

implementing the basic rules of the road for version management. If you imagine driving on the road without all drivers accepting which side of the road to travel or not going through red lights, then you get an idea of how quickly chaos might ensue.

Streams sets some simple rules for managing where changes should be applied in production/released versions of product versus those still in development. With rich visualisations and support for automatically switching contexts between released and development streams, developers will quickly see the benefits of the Streams workflows.

What other elements are core to the new version of Perforce?
The key announcements Perforce recently made include Streams, Sandbox, Cloud, Chronicle for Web Content Management and 'Commons'. Streams make version management easier to use with simple workflows for efficient use; Sandbox allows for distribution of work teams without losing the strengths of centralised visibility and control; hosting Perforce in the Cloud makes it easy for teams – especially start-ups – to get into productive work quickly without the complexity of acquiring, configuring and maintaining version control servers; Chronicle builds a rich WCM system on the Perforce versioning platform – bringing the strength of the purpose-built versioning engine to an easy-to-use web content management toolset. Finally Commons is an easy to use interface for non-technical people, for example finance or legal teams, to use the versioning platform for their day-to-day work.

Altogether these capabilities extend the Perforce platform to new sets of users to version all their business assets in a way that's appropriate for how they want to use the tools – versioning everything.

When will Perforce's these new elements be added to your product?
The current release of Perforce can already be used to manage different content types – source code, documents, video, graphics etcetera. Extending the existing rich clients and integrations will make it easier for non-traditional asset types to be managed.

For example, we continue to enhance our integrations for toolsets such as Visual Studio and Eclipse, and Chronicle is specifically for Web purpose use. Commons will introduce a new UI that neatly integrates with user's desktops to make it easier for non-technical users to manage their content in Perforce.

How is software configuration management relevant to new forms of game development release pipelines?
One of the changes we're seeing in the gaming industry is the adoption of more formal processes, in particular Agile methods are gaining a lot ground. As games titles take longer to complete, the need for Agile methods to ensure games are relevant, adapt to changing market demands, have timely deliveries and keep complex pipelines aligned is more important than ever.

Perforce is a great core to any Agile process, with its ability to support multiple teams working in parallel with great visibility of work across teams.

How else is Perforce changing to meet the needs of an ever more complex game development process?
All the examples listed so far show how Perforce is rapidly evolving to become a platform on which new tools can built by Perforce and third parties. A new community – the Perforce Ecosystem – is being built to support developers of tools on the platform.

Is Perforce in any way relevant as a tool to be used by the new wave of small studios and microstudios?
Perforce offers a great option for smaller organisations. Licensing is very transparent and simple to use. For very small teams or projects, then free licenses are available. Cloud-hosted Perforce also removes the need for expensive investment in hardware.

Are there studios today harnessing the benefits of the new Perforce technology?
Many studios are already doing it. 18 of the top 20 games studios use Perforce and they typically keep more than just source code. Where Perforce isn't being used, then they often have to make compromises as their version control tool doesn't scale well for very large objects or distributed teams.

Would you argue Perforce's offering is now more relevant to games development?
Perforce continues to work closely with its users, responding to their needs in each release while also watching market trends carefully. Perforce's traditional strengths of performance, reliability and ease of use are becoming, if anything, more important as games and the gaming industry becomes more complex and involves asset types.
www.perforce.com

Getting Smarter

As the games industry evolves, the companies providing artificial intelligence tech are having to be more intelligent than ever. **Will Freeman** talks to the discipline's finest to find out what the future holds for AI

As game development undergoes what must be its most tumultuous period of change yet, AI is one of the disciples having to be the most agile.

There's new approaches to pipelines to consider, the diversification of studio models and integration with parallel disciplines to adapt to, and a wealth of new digital platforms to support.

Despite the scale of the challenges ahead, speak to almost any of the AI space's leading specialists, and you're greeted with optimism.

"New hardware is always a fun technical challenge," says Havok's AI team lead Chris Elion, who typifies the buoyant energy that defines today's AI sector.

"In gaming, there's a constant push to make things smaller and faster, and the shift towards mobile platforms highlights this even further. The majority of our code is the same across all platforms, but it's that small section of custom math or multithreading code that can make a big difference in the final performance."

That diversification of platforms isn't just keeping Havok busy. As many players continue to gravitate to ever more elaborate triple-A experiences on console, the on-going rise of casual, social and mobile continues unabated.

"Those two sides of the spectrum require different approaches to AI," states xaitment's MD, COO and co-founder Dr Andreas Gerber. "Right now, casual gaming experiences utilise very basic pathfinding functions. Triple-A titles use some combination of pathfinding and movement, as well as some high-level AI that is often coded by hand.

"That custom code is being written on a title-by-title basis, and can't necessarily be re-used for additional titles."

Modular AI solutions have become increasingly popular, partly as they simplify the creation of low-to-high level AI, and ease the re-use of AI across titles.

"With our different modules, we're well poised to offer AI for every level of game without forcing developers into a one-size-fits-all package," offers Gerber.

CLEVER MONEY

From a purely business perspective, gaming's increased scope does offer AI technology providers many new business opportunities as they explore more accessible pricing models; a fact which is perhaps best demonstrated by Havok's new Strike program, which offers a collection of licensing options targeted at a wide range of game developers, from small indie teams with one-to-two people, to larger and more established teams who are in a prototyping phase ahead of securing finance.

Looking forward a little further, all kinds of other opportunities are presenting themselves to pushing the abilities and functions of AI.

AI pioneers (from top): Chris Elion of Havok, Dr Andreas Gerber of xaitment, and Eric Plante and Mustapha Bismi of Autodesk.

Left: Ghost Recon Online from Ubisoft, which hopes to use AI to provide more meaningful matchmaking in online games

"The first big move will be studios standardising on a core set of low-level services for AI," suggests Elion. "These services will be things like high-speed nav mesh generation, dynamic avoidance, character steering, etcetera. These services are flexible enough to accommodate a range of genres like classic first or third-person shooters, MMO, RTS, racing, flight and space simulators an so on, and will operate in all possible environments including fully dynamic or massive open worlds."

"The other exciting thing is AI's relationship with animation," adds Eric Plante, character animation product manager for Autodesk's games technology group, which works closely with the company's Kynapse AI technology team. "To start with high level AI, today you can get a character mesh on an asset store, you can get animations on an asset store, but getting a behaviour on top of that, and a behaviour that's more easily tweakable is something that I don't see today. That's important for the hobbyists, pro-sumers, small studios and those doing prototyping"

> ***"Areas that we are sure to see advances in are the interactions between AI and the physical environment, and AI and animation"***
>
> Chris Elion, Havok

Elion is quick to echo Plante's enthusiasm for the integration of animation and AI technology; arguably a trend that has been gathering pace for many years. He also brings to light the fact that AI is now developing a closer relationship with other disciplines.

"Other areas that we are sure to see advances in are the interactions between AI and the physical environment, and AI and animation," confirms the Havok man. "Havok has made some great progress on mapping out the interaction between low-level AI and dynamic environments.

"Some of the results, which are available to developers today, are very cool. For instance we see a lot of emergent behaviour from characters when they have to not only steer around each other, but also in-and-out of destructible terrain."

ON TARGET

Arguably, AI is to be found anytime the game has to make a decision that will impact the overall experience. That could be could be something as simple as choosing the next

target for a single unit, up to controlling the whole game pacing by choosing when and where enemies are to be spawned. An example provided by Kynapse senior engineer Mustapha Bismi is that a developer can use AI to interactively adapt the game difficulty based on how the player is performing.

In that context AI can be used at a reactive, tactical level or strategic level

"Therefore, if one sees a game as a series of interesting choices, made by the player based on what he understands of the game, AI is then the ultimate feedback tool at our disposal to shape the experience," explains Bismi. "It can be used to improve the cosmetic side of things, making the entities behave better, thus improving the game immersion."

Artificial intelligence is, many believe, actually at its best when used in this way; to make the game experience more enjoyable, less predictable, and more interesting to the player. In this context it offers the game designer the ability to change the game on the fly to respond to the player feedback.

Other predictions about the way AI will evolve in the next to five or ten years focus on the way character and narrative in games will change. Take for example Gerber's vision: "On the development side, I think we'll be seeing more studios focusing on creating more intelligent characters that add even more to a game's storytelling potential. For example, characters that can learn from their surroundings and the player's actions, that can adapt to the current situation and are proactive instead of just reactive. "

Meanwhile, on the tools front there is a consensus that a greater push towards ease-of-use, reliability and re-usability is essential.

"Those things make it easier and more cost-effective to create AI at all levels," says Gerber. "Features like fast, stable cross platform libraries and easy-to-understand graphical interfaces will really help simplify the creative AI process."

THE NEXT LEVEL

All this optimism is encouraging, but it would be unrealistic not to recognise the challenges facing AI. For as game environments become increasingly dynamic, even at the most basic level of locomotion and pathfinding, the problems are far from being resolved.

> ***"I think we'll be seeing more studios focusing on creating more intelligent characters that add even more to a game's storytelling potential"***
>
> Dr Andreas Gerber, xaitment

"This is one of the greatest challenges we face," claims Autodesk's Bismi. "If finding a technically valid path in a dynamic environment is already quite hard a problem in itself, it is hardly enough to have a good AI. We now require AI that is more sentient about the environment, that chooses paths not only based on how little movement they have to perform to get to the objective, but also based on their understanding of what is going on, avoiding risky areas such as open fields in an FPS."

What's more, as CPU and memory budgets for AI related tasks increase, the industry is now seeing more and more AI directing the gameplay experience in itself.

"This leads to new ways of designing AIs and new tools to control, debug, and improve them. We now need AIs able not only to reason about the whole game in order to plan things; they also need to have some kind of memory, modelling past and present behaviours," concludes Bismi.

None of these challenges are insurmountable, however, and AI remains one of the most captivating spaces in game development. Out of the box solutions are becoming increasingly flexible, affordable and powerful, and there's a degree of democratisation of the technology unfolding that is set to benefit studios of every size and consumers with every kind of taste.

The AI of tomorrow, it seems, is shaping up to be smarter than ever.

A MATCH MADE IN RECON

It's not just tool and technology companies that are imagining new ways that game AI can be used to improve the end user's experience. Now developers are getting involved.

Ubisoft, for example, is looking closely at how adaptive AI can be used as a tool for more meaningful online multiplayer matchmaking.

"With *Ghost Recon Online* what we are trying to do is match people, not so the matchmaking is based solely on skills, but we are trying to match people based on their playing style," explained Ubisoft Montreal's executive director of production services Yves Jacquier, speaking at a special roundtable at Gamescom last month. "We want people to play with others whom they will have fun with. Imagine you are in a shooter and are matching very different game styles; they may not have fun. But if you match people that like stealth, they will have more fun."

Ubisoft's vision is that as online and social gaming becomes the de facto way to play video games, more must be done to cater for an increasing range of experiences and expectations.

"That's something for adaptive AI," offered Jacquier. "It can help us with the accessibility and usability of a social and connected future. We want to provide the best online experience whatever you play style is."

Luckily for Jacquier, he's by no means the only one at Ubisoft pushing for artificial intelligence as key to the future of online gaming.

"There's other things that matter now too," says *Ghost Recon Online* creative director and producer Theo Sanders of what players now want from online gaming. "How likely are you to be friends with other players? How likely are you to enjoy the style of the game modes? This is something that's come out a lot more with online games now. The matchmaking experience is much more important than it used to be, and as a result of that, there's a lot more research and technology being applied to it."

KEY RELEASE

This Month: Will Freeman follows Embody Animation's journey from tech to tool

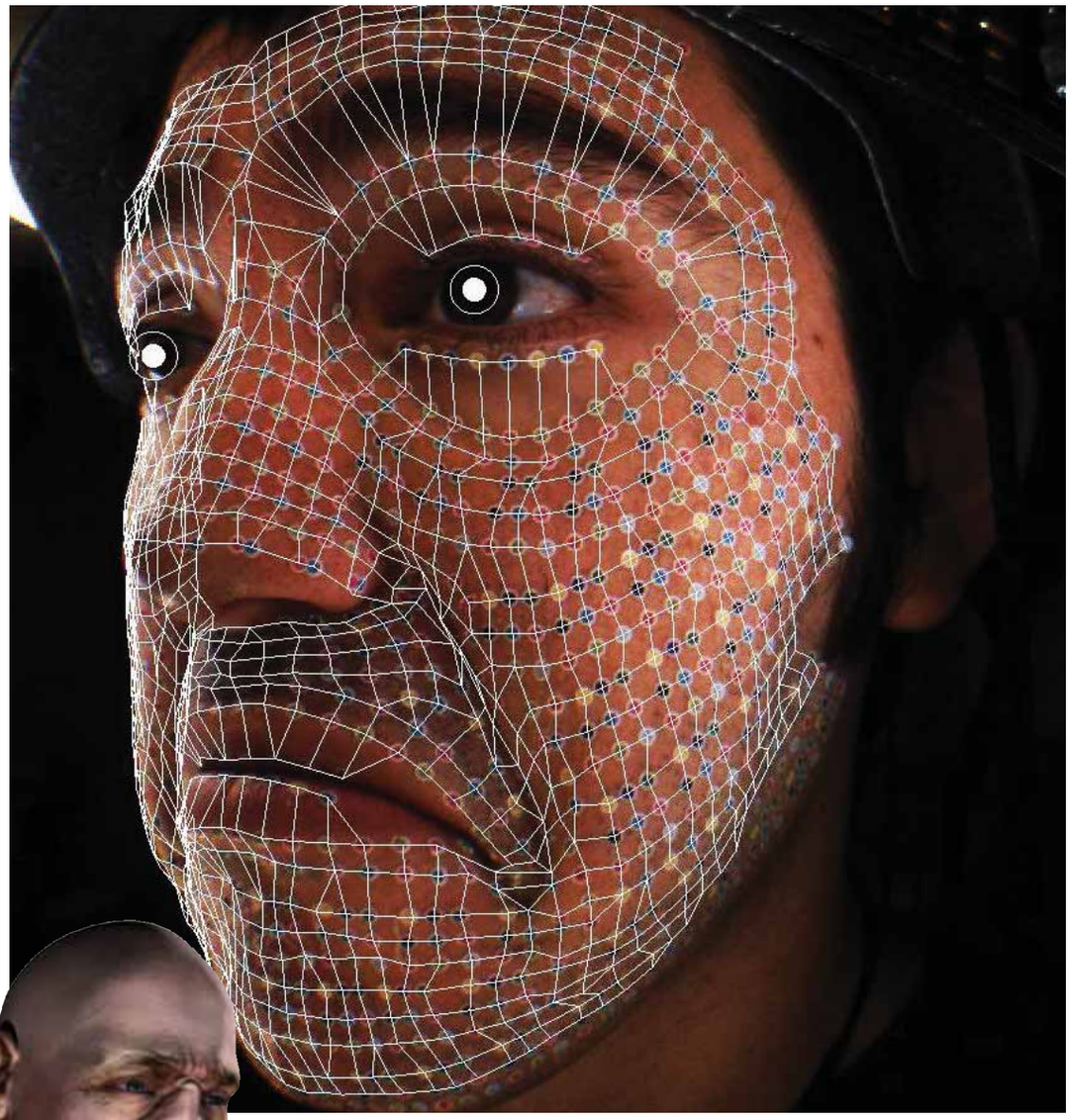
WHAT IS IT?: A tool for retargeting and refining facial animation
COMPANY: CaptiveMotion
PRICE: Contact sales@captivemotion.com
www.captivemotion.com

ORIGINALLY created as internal tech at facial animation outfit CaptiveMotion, Embody Animation is now available to all developers.

Having recently been released as a free trial, Embody has been conceived to allow studios to retarget any facial animation from one mesh to another, all the while maintaining the detail and nuances of the original performance or data.

"While this may sound difficult, the entire process only takes about an hour," says James Comstock, VP of engineering and production at CaptiveMotion. "Embody Animation is mostly used to retarget facial mocap, but any animation can be retargeted. The tools are incredibly flexible, and you can retarget from very different meshes."

That means a user can retarget a facial animation to a photo-real human model, or even retarget to a roughly humanoid shape, to more varied forms like animals and aliens, and to animated 2D characters.



UNDER THE BONNET

Clearly designed to be flexible and adaptable, Embody Animation also enables developers to produce a standard bone animation optimised for use in-engine.

> ***"Embody mostly retargets facial mocap, but any animation can be retargeted. The tools are incredibly flexible."***
>
> James Comstock, CaptiveMotion

"Our most important features are that we support retargeting animations to either a bone rig or to a mesh. If you retarget to a bone rig, the animated source mesh will be used to drive the bones of your character," explains Comstock, later adding: "If you are looking for the highest quality animation, say for a pre-rendered cutscene, then you can retarget directly to a mesh. In this case, the animated source mesh will be used to drive the vertices of your character directly. We also include advanced skinning tools that make it quick and easy to produce high-quality facial skinning for rigged characters."

A few years previously technology like Embody Animation would be almost exclusively the reserve of large triple-A studios, but with the ongoing democratisation of both mocap hardware and techniques, CaptiveMotion has responded to change, making sure the tool is accessible to the new wave of smaller studios embracing motion capture.

"We designed Embody Animation so that it can be used on large projects that require hours of high-quality facial animation. In this capacity, it works great. However, it works just as well on small projects," insists Comstock. "It also handles data of any fidelity. You can retarget facial mocap data produced by an optical mocap system using 50 reflective markers, or by Embody using 1,500 markers, or anything in between."

ON THE PULSE

The rise of accessible mocap isn't the only trend considered in developing Embody. It's also been created to solve the problem of the fact that there are still no standard processes for retargeting the facial mocap animation from an actor onto an in-game character.

"You'll either need to develop your own in-house solution, or give up creative control and hire specialised external resources," says Comstock of a world without Embody technology. "With Embody Animation, you can now handle retargeting internally. This means you won't have to build your own solution and can still maintain creative control. And since it only takes about an hour to retarget a character, you'll be able to do everything quickly and cheaply."

Designed to work with any animated data, Embody Animation provides what its makers promise is a unique offering.

"We weren't building software that was an iterative improvement over an existing product," says Comstock of crafting Embody Animation. "Rather, we were attempting to solve a new problem in a general case manner, and we had to invent completely new techniques to do so."

It took Captive Motion almost four years to get Embody Animation to the point where it could stand on its own as a retail product. Now that's done, the challenge is in helping developers understand how to leverage Embody Animation to make a paradigm shift in how they manage their facial animation pipeline. That change is one that could save studios money and increase the quality of their work, and if that's the case, the challenge for CaptiveMotion should be an easy one to overcome.

www.captivemotion.com

CaptiveMotion VP of engineering and production James Comstock (above) is confident that the speed and efficiency of Embody Animation can aid projects of every size

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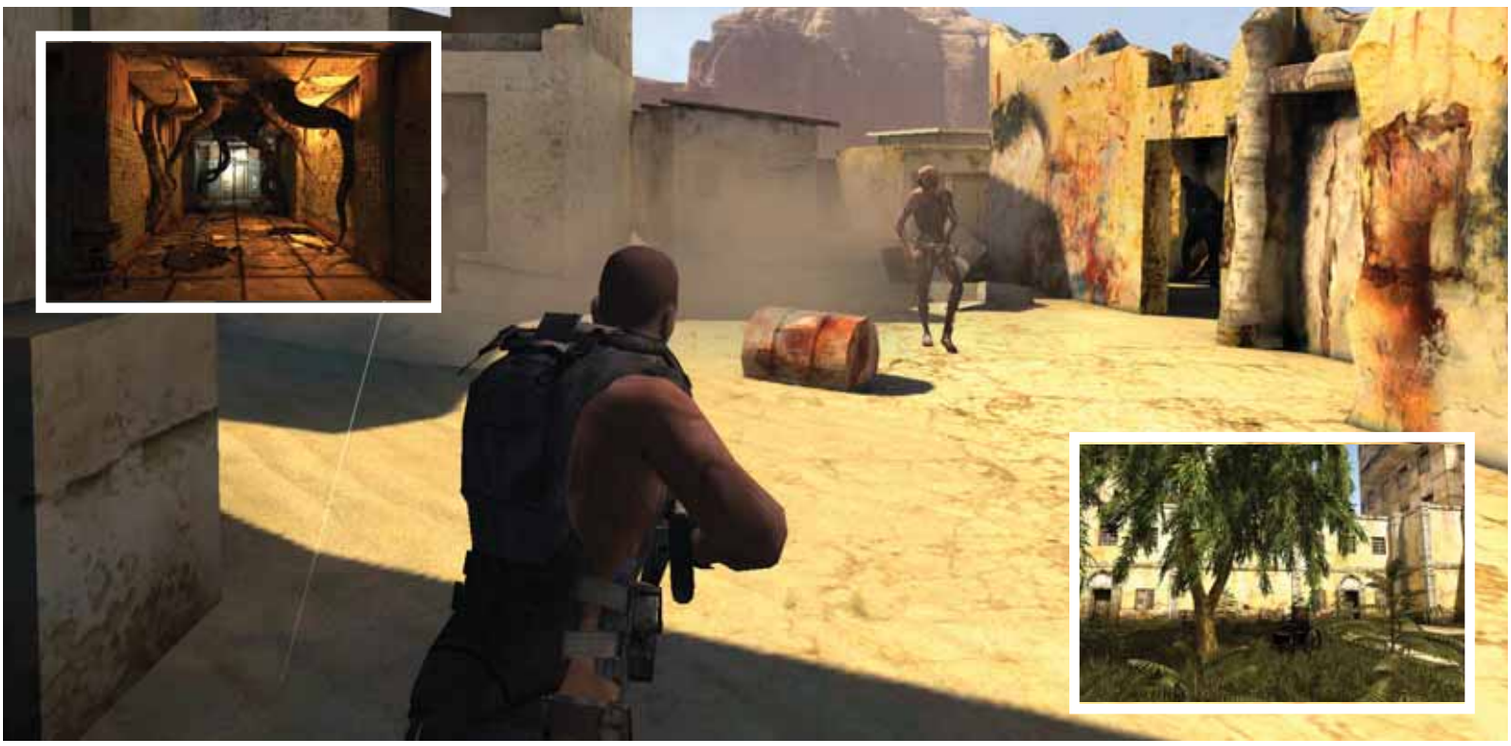
EPIC DIARIES

Crystalised talks to Epic's **Mark Rein** about the upcoming UDK title Desert Zombie: Last Stand

Desert Zombie: Last Stand
Developer: Crystalised
Format: iOS
www.epicgames.com



Desert Zombie: Last Stand (above) offers a working example of how UDK caters to development of triple-A experiences on iOS

AS IF WE didn't already spend enough time on our smartphones and tablets, a new wave of high-end handheld gaming built with Unreal Engine 3 is giving us even more reasons to tap and swipe.

Many new iOS projects are being developed with the Unreal Development Kit (UDK), the free edition of UE3, which requires little to no programming and only costs $99 USD per studio licence, with royalties only kicking in after $50,000 in net earnings.

Crystalised is one studio that wasted no time picking up UDK for *Desert Zombie: Last Stand*. When asked why, production manager Cam Phillips said, "It was a no brainer, really. UDK is an industry leading, triple-A games engine that's been made accessible to smaller development houses with a royalty-based licensing deal. No other engine on the market can compete with UDK on mobile platforms."

Phillips explained that his team has UE3 experience through previous projects and education, and: "with the advent of iOS support for the Unreal Engine, the time to enter the marketplace and have a resounding impact on the mobile gaming space has never been better."

LIKE PERFECTION

Mac|Life describes the third-person shooter as "absolutely gorgeous" and *Touch Arcade* says it looks "pretty incredible." Phillips says several notable UE3 tools have really helped Crystalised achieve the desired look and feel of *Desert Zombie: Last Stand*.

"Unreal Matinee and Unreal Cascade have been pivotal in creating visceral, dramatic and explosive gameplay moments that really bring the game to life and give players a real 'sense of war,'" he said.

"The new Simplygon tools included in the latest iterations of UDK have helped us to optimise assets on the fly to squeeze the very most out of the iOS device's performance, allowing us to deliver more bang for your buck. It's an amazing tool and a massive time-saver."

> ***"The ease of deploying directly to a device for testing was astonishing – it was amazing for work-flow"***
>
> Cam Phillips, Crystalised

STAY MOBILE

Crystalised has also benefitted from UE3's streamlined mobile pipeline. "The ease of deploying directly to a device for testing was astonishing – it was amazing for work-flow. The new tools that emulate mobile features in the editor window have really helped us keep a consistent feel across all platforms," said Phillips.

In addition, Phosphor Games Studio is using UE3 to develop *The Dark Meadow*, a first-person action adventure for iOS that will keep players on the edge of their seats as they attempt to escape an abandoned hospital by tracking down an elusive witch and battling her nightmarish minions by way of sword and crossbow combat.

Kotaku summed up its early impressions of The Dark Meadow: "It sounds like the developers reached into a bag filled with the best horror-suspense games, mixed in a little first-person shooter, and sprinkled it liberally with other games that have had tremendous success on the iOS platform: *Angry Birds*, *Infinity Blade*, and so on. I've absolutely no problem with that."

We just can't wait to get our hands on both these Epic technology developed triple-A iOS games.

UPCOMING EPIC ATTENDED EVENTS:

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October 10th to13th

Montreal International Game Summit
Montreal, Quebec
November 1st to 2nd

Game Connection
Paris, France
December 6th to 8th

Please email: ***mrein@epicgames.com*** *for appointments.*

To discuss anything raised in this column or general licensing opportunities for Epic Games' *Unreal* engine, contact: **mrein@epicgames.com**

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Canadian-born **Mark Rein** is vice president and co-founder of Epic Games based in Cary, NC. Epic's Unreal Engine 3 has won *Game Developer* magazine's Best Engine Front Line Award five times along with entry into the Hall of Fame. UE3 has won four consecutive Develop Industry Excellence Awards. Epic is the creator of the mega-hit *Unreal* series of games and the blockbuster *Gears of War* franchise. Follow @MarkRein on Twitter.

UNITY FOCUS

Exit Entertainment explains why it built Pirates of New Horizons with Unity

PIRATES OF NEW HORIZONS
Developer: Exit Entertainment
Platforms: PC/Mac
What is it? Platformer
www.exitstrategyentertainment.com/ponh

Exit Entertainment's management staff (above, from top to bottom): creative director Soenke Seidel, lead programmer Michael R. Schmidt and MD Friedrich Bode

WHEN Hamburg-based Exit Strategy Entertainment began looking for an engine on which to build what would become *Pirates of New Horizons*, the market initially left it feeling stranded.

"When the project started Unity wasn't available for Windows yet, and UDK wasn't on the horizon either," says studio creative director Soenke Seidel.

"I tried a billion obscure open source engines which were all completely unusable. They were all bug ridden, had no proper tools and no design/workflow at all. Then a colleague of mine at IO Interactive recommended Unity to me.

"I didn't try it before the first version for Windows was released, which I believe really was the flood gate opening that led to Unity's current popularity. The tight design and workflow convinced me immediately that it was the one."

Lead programmer Michael R. Schmidt agrees with the sentiment, tracing the line of Exit's love for Unity back to 2007.

"We had been playing with the Unity engine way back at a Game Jam in '07, and already then it was love at first mouse click," he says.

WHAT I LIKE ABOUT YOU

In terms of the things that stood out for Exit when they decided to work with Unity, the engine's successful browser plug-in functionality was high on the list.

"Personally, I am still amazed each time I play a 3D title in my browser," says Exit MD Friedrich Bode.

"The Unity plugin bridges a gap there, and while I'm sure many games can benefit from this, it just isn't a crucial factor for us. However we did release a web player version of our prototype that runs in browsers."

A game needs more than just browser compatibility however, and Seidel can pinpoint several areas of Unity that had a substantial impact on the development of *Pirates of New Horizons*.

"The friction-less asset import pipeline and the prefab system – I have never seen anything this well designed and user friendly in a 3D engine before," he says.

"With Unity it's simply Ctrl-S in maya, Alt-Tab to Unity and there it is."

As Schmidt sees it, speed was also a major influence on the process.

> ***"We had been playing with the Unity engine back at Game Jam '07, and it was love at first click."***
>
> Michael R. Schmidt

"The sheer raw speed of which one can produce content is by far the most important feature in Unity," he says.

Development can be a long and complex process, but Bode is entirely convinced that the expansive tool set offered with Unity made the creation of *Pirates of New Horizons* smooth sailing.

"Even though Unity comes with a great set of tools – you shouldn't underestimate the workload you still need to put into the development yourself," he says.

"3D platforming is not the only element of our game, but definitely the most central one. So getting the movements right and the controls tight is very important to us. We've spent a lot of time on this even after the release of the prototype and it's an on-going task for us till this day."

And as for the finished product, Schmidt has an interesting perspective on why Unity was the best choice for Exit.

"We can deliver this huge and beautiful world," he says.

"And yet it runs great even on old laptops."

UNITE FOR YOUR RIGHT

The team at Exit Entertainment are in no doubt as to their favourite elements of the Unity engine, on which they created their first full game, *Pirates of New Horizons*.

"I love our level building workflow and pipeline and how optimized it is. I am a big frame-rate-nut," says Seidel.

"60 FPS is not enough, I need 200 FPS and once again. Unity did not force a specific level structure or workflow on us – we could design our own structure that suited us.

The programmers are probably most proud of our entity system and I have to agree that stuff is really powerful, I can control pretty much anything that Unity offers within a level trigger setup that usually would have to be done via code."

And it's in making use of Unity that Exit have seen its greatest successes as a studio come to them. With the release of the full version of *Pirates*, the studio has moved into a permanent residence in its home city of Hamburg, Germany.

"Having your own office feels really good but searching for facilities, paying for the rent, reading contracts and signing them does not," Seidel adds.

"I wish it were a lot easier to start companies up."

Bode aptly sums up the Exit story so far.

"It's a big adventure, lots of work but also tons of fun," he says.

HEARD ABOUT

John Broomhall talks to Playdead about the recent Develop Award winner

Limbo
Developer: Playdead
Platforms: Xbox 360, Playstation 3, PC
www.limbogame.org

Martin Stig Andersen (top) used some antique audio equipment (above) to create Limbo's distinct audio backdrop

GAME AUDIO people are still talking about *Limbo*. They may be for some time. One leading audio developer recently stated publically they would likely have made a terrible job of *Limbo's* audio compared to the treatment by Martin Stig Andersen, who single-handedly created its sound and audio.

Not because they're rubbish – far from it. It's just that Andersen did such a brilliant, innovative and thoughtful job. It's all about vision – or perhaps that should be audio vision. Would you have added a 'spooky' stylised interactive orchestral score, a plethora of character emotes and maybe even a narrator? How easily the 'nothingness' – the 'notional silence' – could have been tromped on and thereby the intensity and involvement diminished.

The brief was 'not like a video game', leaving Andersen free to explore some powerful ideas in an environment in which he could nurture them – and he found the iterative experimentation/decision-making process both engaging and inspiring in itself.

SMALL FORTUNES

"I learned some interesting things," confirms Andersen. "Trying to make *Limbo* sound like an old film, I put everything into mono but discovered I couldn't engage myself with that sound. It's because I was living in 2009 – it was just not immersive enough. I see *Limbo* as such a tiny world. I was trying to reduce all the sounds to something very simple and thin sounding. I distorted sounds and then afterwards, expanded them again, really spatialising them – almost anti-phase.

"I ventured into using antique audio devices – wire recorders, spring reverbs and tape recorders. In linear media you can make your mix from moment to moment whereas in a game, the sounds might always be mixed differently. One thing I discovered using old machines was that they created a homogenic sound. Running all of my sounds through an old tape recorder made them sit very well together in the mix. With my own bespoke-recorded physics sounds – I found when I put them in the game, they sounded too real – the surface of the sound didn't fit the image.

"So I ended up running them through an old spring reverb. I put the reverb to zero so basically I was just using it as a hardware filter which made the sound narrow and thin – all the bottom would disappear. Because the sounds lost a lot of their main actual identity and clarity, they suddenly became more generic – I could use the same sounds for a metal box or a wooden box. It all contributed to making the world very small and defined.

> ***"A lot of the things I do are essentially mash-ups or paraphrases – it arises from working with electroacoustic music for years."***
>
> Martin Stig Andersen

"A lot of the things I do are essentially mash-ups or paraphrases – it arises from working with electroacoustic music for a lot of years. I can take one sound and it doesn't really matter where it comes from because I'm not using that sound as it is. I might just extract the texture or colour and then use it to transform another sound. It leads to a slightly unnatural but useful quality allowing me to create an audio world that's generic and yet unique."

IN STEP WITH SOUND

Footsteps are pretty much the only sounds the character makes, with Andersen feeling that in third-person games the player can identify with the character but if he or she starts to make noises, a disconnection is created. Meanwhile, the music of Limbo is so ambient and blends so beautifully with the sound and graphics that some reviewers have claimed there is none.

But for Andersen, the overall narrative structure built into Limbo's audio is his biggest contribution.

"No one really pays attention to this aspect so I'm really happy when people ask about it. For me, the overall framework plays a very important part," he says.

"I was trying to achieve the creation of a world structure with the audio going from quasi-realistic sound that you hear in the forest – naturalistic – then as the boy progresses through the world, things become more and more abstract. they almost become transcendent.

"What I wanted to contribute was more along the lines that the boy got habituated to the violence – rather than the player, with the player almost wondering how to feel and with the music sometimes almost representing forgiveness."

As ever, though beautifully realised, such true sound design does not readily show itself yet it works subliminally to tell a story. As our old friend Ben McCullough would say on the matter – 'It isn't just the icing on the cake; it is the cake'.

John Broomhall is an independent audio director, consultant and content provider.
E: develop@johnbroomhall.co.uk
www.johnbroomhall.co.uk

The authors of Practical Rendering & Computation with Direct 3D 11 (from the top) Jason Zink, Matt Pettineo and Jack Hoxley

Particle Systems

In our ongoing series of book excerpts, here we present an extract from Practical Rendering & Computation with Direct 3D 11 by Jason Zink, Matt Pettineo and Jack Hoxley

FLUID RENDERING is a very useful and visually appealing simulation to add to a scene. However, its use is restricted to a fairly specific domain of situations due to the fact that it represents a fluid.

There is a whole class of additional natural and man-made phenomena that are desirable to add to a scene, and that are fundamentally different than fluids.

These effects include smoke, fire, sparks, or debris from an explosion, just to name a few. As with fluid simulation, the visual appearance of these phenomena is the result of many millions or billions of individual molecules continually interacting with one another in many different ways, over a period of time. This is simply not possible to directly simulate in a real-time rendering context; hence, we must find a more efficient method to produce a rendered image sequence that can approximately produce a similar appearance.

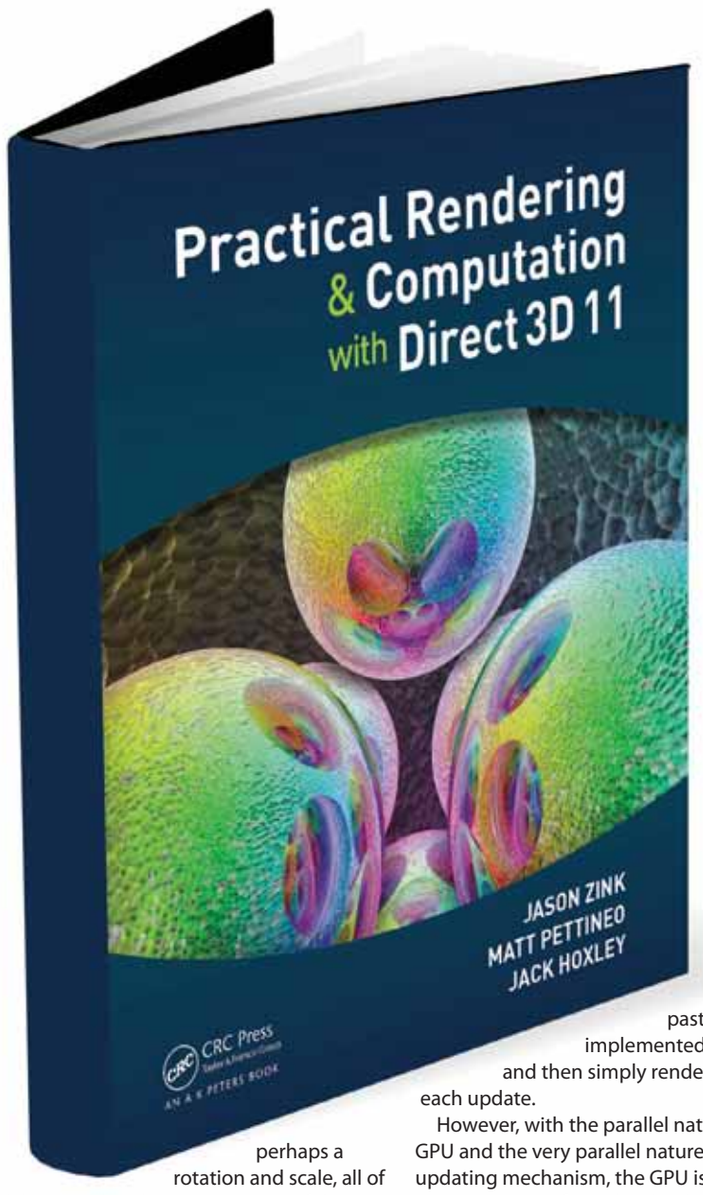
One potential technique for implementing these effects is the use of particle systems. A particle system is a construct composed of many individual elements, referred to as particles. Each particle has a unique set of variables associated with it to define its current status; when considered at the same time, the particles form a particle system.

DEFINING ALGORITHMS

The simulation portion of this concept requires us to define an algorithm for creating new particles, destroying old particles, and incrementally updating the state of the particles between creation and destruction events for a small increment of time. Each particle is created, then is updated once in each simulation step, and finally destroyed after it is no longer needed. The main constraint in a particle system is that all particles must use the same set of variables, which allows their update method to operate in the same way on each particle.

> ***"We must find a more efficient method to produce a rendered image sequence that can approximately produce a similar appearance."***

This technique of using many unique elements and updating them with the same set of rules is used to derive complexity out of many simple components. For example, to simulate the smoke rising from a fire, each particle represents one puff of smoke. Each particle maintains a position, a velocity, and perhaps a rotation and scale, all of which are updated every time step of the simulation. Here, the update method generally makes each particle drift in some direction, with a semi-perturbed pathway.



PARTICLE RENDERING

After each simulation step, the particle system is rendered with each particle being represented as a small quad with a smoke-puff texture applied to it. With all of the particles moving independently, but with the same rules applied to them, we can model a more complex system with a simple one.

The same concept applies to the other examples mentioned above, except that perhaps the particle properties, the rendering attributes, and the update method would be changed to the appropriate version for that type of particle system.

Particle systems have been used in computer graphics for a very long time. In the past, they were implemented on the CPU and then simply rendered after each update.

However, with the parallel nature of the GPU and the very parallel nature of the updating mechanism, the GPU is an ideal processor to perform the simulation. In addition, since the simulation results are already residing in video memory, the rendering process doesn't need to transfer it out of system memory, which results in faster rendering. The sample program discussed in this section implements such a GPU-based particle system, while taking advantage of some of the new features in Direct3D 11.

This particle system provides a specific implementation of a particular type of system, but it can easily be adapted to support other particle systems as well.

Check in next month for part two of this extract.

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PERSONNEL

This month: Havok, Mojang, Zynga and Tiga

Former Havok worldwide sales VP **Mike Walsh** is now CEO of AI firm xaitment.

Walsh's appointment comes as part of a global expansion by xaitment.

xaitment's previous CEO, Dr. Andreas Gerber, has now taken a COO position behind various technologies such as xaitMap Creator and xaitMove^2 Creator.

"I am really honoured to be joining xaitment at such an important time in the company's evolution," said Walsh. "We have signed up some really exceptional console developers in Europe, North America and Asia, and we are looking forward to adding to our growing list of satisfied customers."

Walsh brings with him 16 years of experience in the video game and technology sectors.

Swedish indie studio Mojang has announced the appointment **Henrik Pettersson** as its newest development team member.

Before joining the *Minecraft* team, Pettersson had most recently worked as concept artist at fellow Swedish indie studio Fabrication Games.

He started working as a freelance artist in 1991.

Mojang founder Markus Persson publicly welcomed Pettersson to Mojang on his personal Twitter feed.

Stockholm-based Petterson, who goes by the online pseudonym 'Carnalizer', will be working as a graphical artist at the *Minecraft* studio.

The new hire puts Mojang's workforce close to fifteen people.

Jeff Karp, an executive at the centre of EA's family games output, has left the company to join nearby casual games giant Zynga.

The departure of Karp will add to a growing list of directors and executives who recently quit the publisher, the most striking being its former second-in-command John Schappert, who now also works for Zynga.

Karp's 11-year spell at Electronic Arts has come to a end as the firm reshuffled itssenior management.

Karp was appointed executive vice president of EA's Play Label six months ago, following a two-year spell as chief revenue officer.

He began work at the publisher, as a marketing executive, in 2000.

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UK video games industry trade body **Tiga** has called for caution in the implementation of any new national immigration policy in the UK.

Responding to a consultation exercise by the Migration Advisory Committee titled 'Call for Evidence on Analysis of Settlement of Migrants Under Tiers 1 and 2 of the Points Based System', Tiga warned that any restricting or removing of settlement rights would make the UK a far less attractive place to work for talented migrants both in and out of the games development industry.

"Either limiting or eliminating settlement rights could stymie the growth of some games development businesses and could harm the capacity of the sector in general," said Tiga CEO Dr Richard Wilson.

"At a time when the UK economy has virtually flatlined for nine months, the last thing that the Government should be doing is harming the capacity of a high technology, high skills, export oriented sector to grow."

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STUDIO SPOTLIGHT

This month: Keen Games

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The story of Frankfurt-based Keen Games begins with an older studio, now closed. In 1992 six industry friends – including later Keen management Anthony Christoulakis, Jan Jöckel and Peter Thierolf – founded Neon Studios. Working with Ocean on systems like the Sega Mega Drive and Amiga through the '80s and '90s, the studio scored it's first major hit with *Tunnel B1* on the PSone back in 1996.

With the end of one console cycle and the beginning of another, Neon lost its publisher when Ocean was acquired by Infogrames. The company was then sold to Austrian publisher JoWooD, at which point the studio management all moved on to new things.

Neon found itself developing *Legend of Kay*, a PS2 third-person action title that was later ported onto the DS. Neon was developing a solid name for itself. Things were going well in terms of output, but the loss of management proved to be the precursor to the end, and the studio was subsumed into JoWooD in 2005.

Despite this, the company's founders wanted to maintain the Neon legacy, and in the same year they founded Keen Games with the Neon assets they purchased. Pete Walentin rounded out the management team to four.

The new company quickly went about setting up interesting contracts with a notable number of different publishers, and over the first few years of its existence began developing projects for an impressive array of platforms. Moving with the casual and mobile games shift that has been building steam within the development sector since the early noughties, Keen developed titles like the film tie-in *G-Force* for the PSP and Nintendo DS, *Anno: Create a New World* and its sequel *Anno 1701* for the Wii and DS and *Dance Dance Revolution – Disney Channel Edition* for the PlayStation2.

A rapid expansion took place, and Keen's headcount went up to over 45 staff overall.

The quick success of the new team and the history that came with the link to Neon clearly boded well for Keen, and when the studio announced it was developing MMO *Star Trek: Infinite Space*, the mix of a big licence and a new platform was hardly surprising. The new game is already generating a healthy amount of interest in its testing phase, and Keen has cemented its position as a studio to pay attention to.

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TOOLS NEWS

This month: Adobe, Havok, xaitment and Unity

A rapid shift in business strategy has resulted in **Adobe** becoming the first provider of a professional-level editing tool for the HTML5 standard.

The company has moved fast to launch a preview of its Edge design tool. The editor, which is free for developers to preview, allows customers to animate interactive HTML5 web pages.

The move comes as Adobe's flagship product, Flash, faces a challenging future with Apple outright blocking the popular format across its entire line of mobile and iOS devices.

Adobe says that Edge is a premier editing tool for developers and animators looking to develop in HTML5, but insists there is still a big future for Flash, and that both products can work side-to-side.

The new tool is available on PC and Mac. Adobe insists it will try to update its tech to meet the rapid changes of the HTML5 standard.

Havok has expanded its remit – staking a claim in the 3D engine space. The firm has announced it is to buy Trinigy and its Vision Game Engine.

By buying the firm, Havok's suite now extends into rendering capabilities. Vision Engine will now go under the name of Havok Vision Engine.

The deal will be finalised mid-August, after which the two will set about integrating their development, operations and customer support teams.

"We are delighted to acquire this highly experienced, proven team," said David Coghlan, MD of Havok.

"This acquisition will extend the reach of both companies' technologies across new geographies and market sectors. We are excited by all the new opportunities that the combination of Havok and Trinigy will bring as the industry continues to broaden in terms of target platforms, markets, budget sizes and distribution models."

Xaitment has launched xaitMap 3.0, an AI tools bundle of xaitMap and xaitMove.

The bundle includes a coupling of pathfinding and automatic navigation mesh, which Xaitment says will provide developers with a 'more integrated and intuitive approach for creating intelligent entity and crowd movement'.

The set will be available for PC, PS3, Xbox 360 and Wii development.

"NavMesh generation, pathfinding and movement are all critical components to any AI solution," said Xaitment CTO Thorsten Maier.

Xaitment MD and CEO Mike Walsh further outlined the thought process behind the new bundle, saying: "Our goal as an AI middleware provider has always been to provide tools that are powerful, yet simple to use."

"xaitMap 3.0 now makes it easier to access critical AI functionality from one interface without losing the affordability of our modular approach."

Unity Technologies has hired "an acclaimed Flash games development veteran", as part of its wider aim to incorporate the Adobe tech into its popular game engine.

The engine vendor is building a toolchain that allows Unity customers to export certain web games in Flash 3D. That tech, with the help of new hire Ralph Hauwert, is expected to reach beta by the end of the year.

Unity's new Flash initiative, when announced in March this year, surprised many in the Flash game community. Unity allows developers to export games online through its own web player.

The company's CEO, David Helgason has in the past hinted at building a solution where 3D games can be exported in both Flash and the Unity Web Player. This could ramp up the number of Flash developers working with Unity and, consequently, the Unity Web Player.

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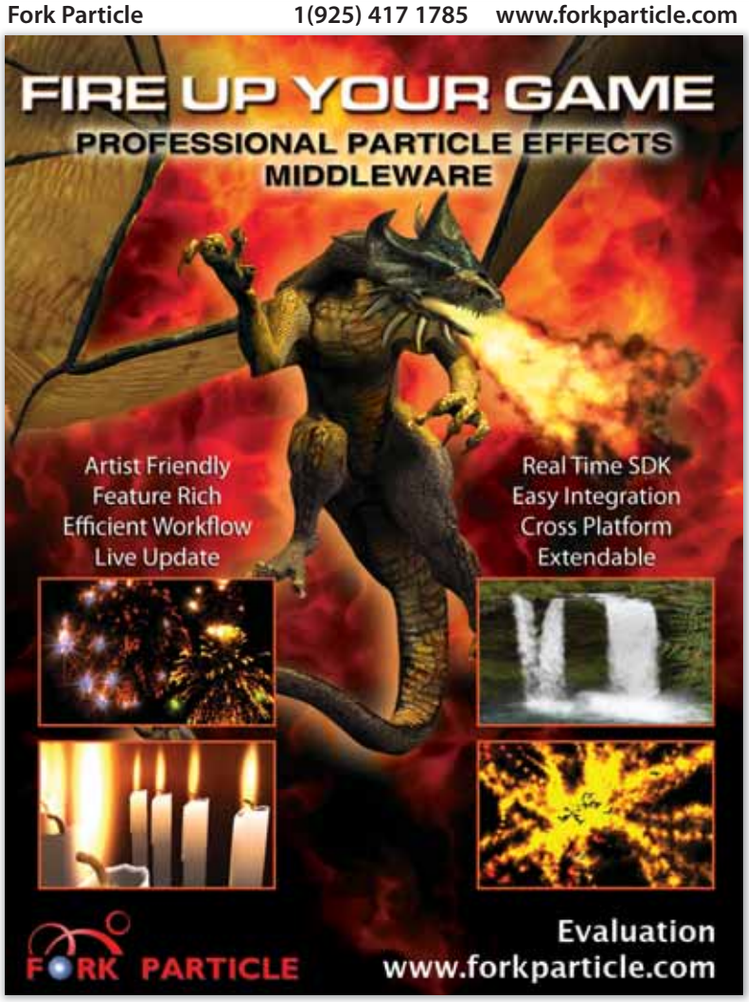

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SERVICES NEWS

This month: d3t, Image Metrics, Valve and IndieVision

Two highly experienced directors who worked at THQ's UK studio have launched a new outsourcing company.

Jamie Campbell, THQ Digital Warrington's technical director, along with development director Stephen Powell, have joined forces to open the independent outfit **D3T**.

D3T – based in Cheshire – offers studios game design, development, porting and bug fixing services across a range of games platforms including mobile, console and PC.

"After the closure of the Warrington studio, we saw an opportunity," Campbell told *Develop*.

"With the games industry continually moving towards a far more transactional and contracting basis, we saw the added value we could offer to employers by allowing them to contract an entire elite group rather than having to find individuals who were available, reliable, capable and affordable."

Image Metrics is internally building a camera-based program that can recognise even the most nuanced human facial movements. This data is converted into code and controls an on-screen 3D character in real-time.

Mike Rogers, director of research at the company, delighted delegates at the Edinburgh Interactive Festival last month with a demonstration of the impressive new tech.

Rogers talked into his laptop camera that displayed the view onto a large projection screen. Then, after activating the new animation program, Rogers continued to talk, but the projector was no longer showing his face. Instead it was displaying a large cartoon panda.

As Rogers smiled, so did the Panda. A raise of the eyebrow, or slight grimace, was replicated in real-time.

Rogers said; "We've got very good at even the most nuanced expressions with game characters."

Reknowned industry legend and *Doom* developer **Id Software** has licensed Sweden-based Hansoft's eponymous QA and project management solution, the Texan studio has announced.

"We were all ultimately sold on Hansoft's speed, its flexibility and its highly intuitive user interface, as well as the impressive responsiveness and overall knowledge of the Hansoft team," said the studio's executive producer Marty Stratton.

"The available SDK has also been great in allowing us to begin valuable customised integrations of Hansoft with some of our other internally developed tools and technology."

Hansoft's version 6.6 tech bundle was launched by the firm earlier this year. The latest edition of the respected kit features enhanced collaborative reporting processes, which Hansoft says will allow users to share data with far greater ease.

IndieVision, the advice site for indie developers founded by Richard Hill-Whitall of Icon Games Entertainment, has announced its successful return to work after a period of difficulty and uncertainty for the site.

The site was created with the intention to 'help other indies in what is an incredibly exciting time to be an independent developer.'

After several changes of both domain name and hosting area, the site's content team say it has now settled permanently at www.indievision.biz.

"I am really excited to get back to IndieVision after a difficult few months" said Hill-Whitall.

"It is my aim for IndieVision to be the largest and most current collection of articles related to indie business. We're not here to tread on the toes of any other organisation out there – just to do all we can to help provide useful information to fellow indies."

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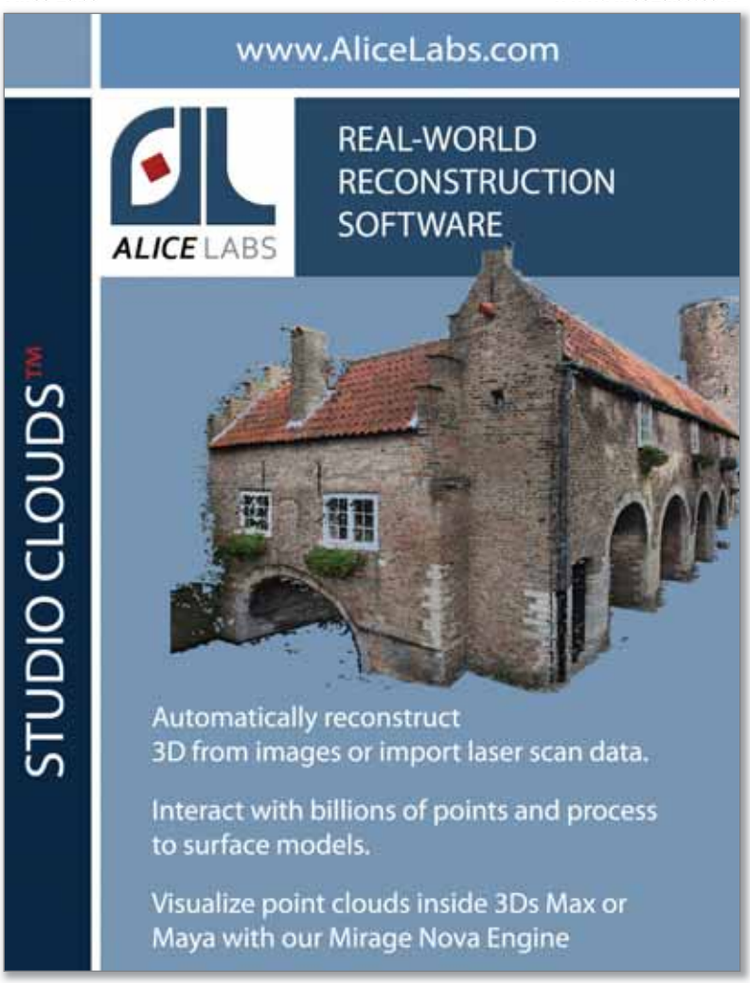
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SERVICES SPOTLIGHT

This month: LocalizeDirect

LocalizeDirect

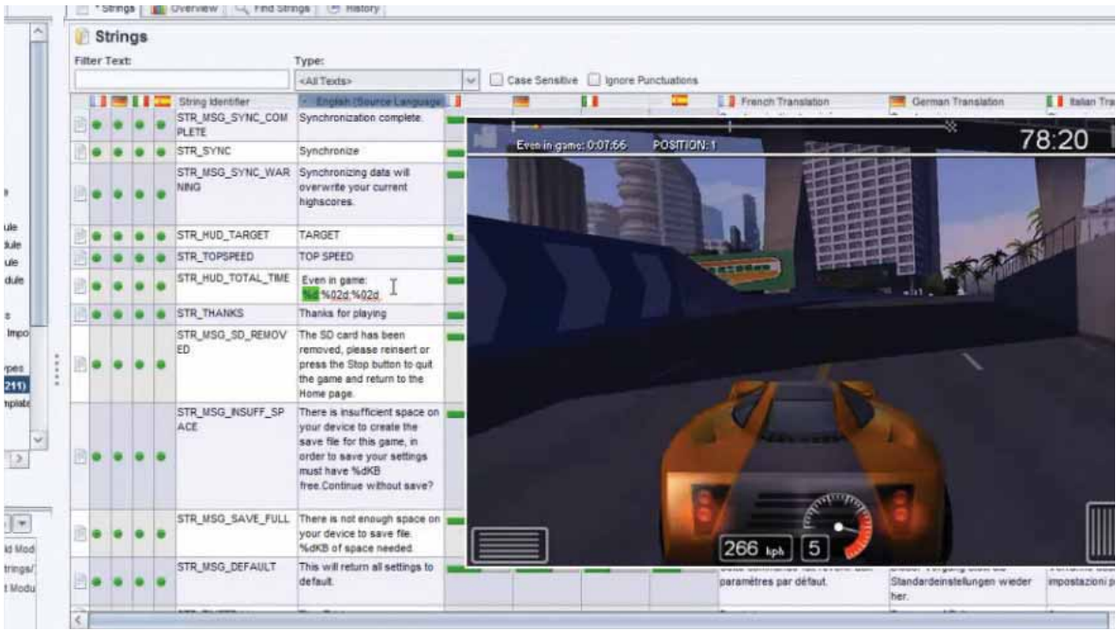
LocalizeDirect is a software development and translation service company and the developer of LocDirect, a localization tool for the games industry.

The management team is comprised of developers who have worked on a vast number of games and experienced the pitfalls of bad localisation processes first hand. This experience has resulted in the development of a service that aims to remove these pitfalls.

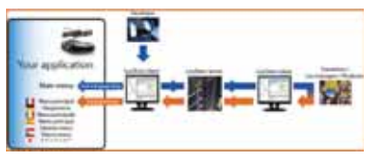
Tool licensing launched in August 2010 and the translation service in November 2010. Since launch, LocalizeDirect has attracted high praise and a stellar client list which includes the likes of THQ, Rocksteady, nDreams, Doublesix, Pressplay, Slitherine and Playdead.

LocalizeDirect's mission is to provide customers with the best solution to localise in-game assets. Localising games really needn't be the pain it has historically been. With both the correct management tool and optimal delivery structure in place localisation can be extremely straightforward.

LocalizeDirect are keen to improve process for businesses of all sizes. Smaller outfits have to contend with limited budgets and cannot afford to spend time with localisation pain. Larger outfits need streamlined process. Any delay will result in massive overspend due to a larger organisational overheads.



LocDirect helps users localise into multiple languages and then integrate content back into the title quickly. Translators access source language strings direct and then the developer can export the content in the form most suitable. It is highly adaptable and scales from small handheld game productions to large triple-A multiplatform projects.



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TRAINING NEWS

This month: Dare to be Digital

A new breed of talented game developers were named and honoured last month as the arduous Dare to be Digital contest came to an end.

By tradition, three student teams were picked as joint winners, as voted by experienced industry professionals, and will now go on to compete for the final prize – the BAFTA One to Watch award.

This year it was an eclectic collection of games that wowed the judges.

One game, called *Joust*, tasks players to take part in the eponymous duel using the Kinect control system.

Another, called *Dreamweaver*, is a PC puzzle game that drops into a nightmare scenario as your in-game companion turns on you.

The third, a game called *Tick Tock Toys*, was built specifically for iPad.

The three development groups were each comprised of five students from institutions such as University of Copenhagen, University of Central Lancashire and Norwich University College of the Arts.

Two of the teams incorporated students from Abertay University, where much of the competition took place.

Malath Abbas, who worked with winning team Evolved Ape, said the contest and its outcome has "made me realise I have the ability as an artist and as a leader to deliver".

"I'm absolutely ecstatic and really proud of the final product and the whole team," he added.

Digital Knights team leader Roman Graebsch said his team got together "for the fun of it, so it's just amazing to be nominated for a BAFTA. It's just such a great feeling to see people enjoying what you've created."

Swallowtail team leader Sophia George said she wants to see more females in development industry, "and in turn create more games for women".

"It is such an incredible privilege to win," she added.

All three students, and their teams, were celebrated as winners at the Dare Protoplay event in Dundee – a festival which the event organiser says broke record highs for attendance rates.

FunBox, a game from another student team, won Intel's Visual Adrenaline Award for best graphics.

Applications from over 70 universities worldwide were whittled down to just 15 teams to compete in Dare to be Digital 2011. The event is scheduled to return again next year.

THE WINNERS:
Joust, by Digital Knights IT University of Copenhagen;
Agne Gediminskait
Roman Graebsch
Josep B Martinez
Petr Papez
Abertay University;
Amr Din

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Daniel Schole
Mat Stevenson
Liverpool Screen School;
Malath Abbas

Tick Tock Toys, by Swallowtail Norwich University College of the Arts;
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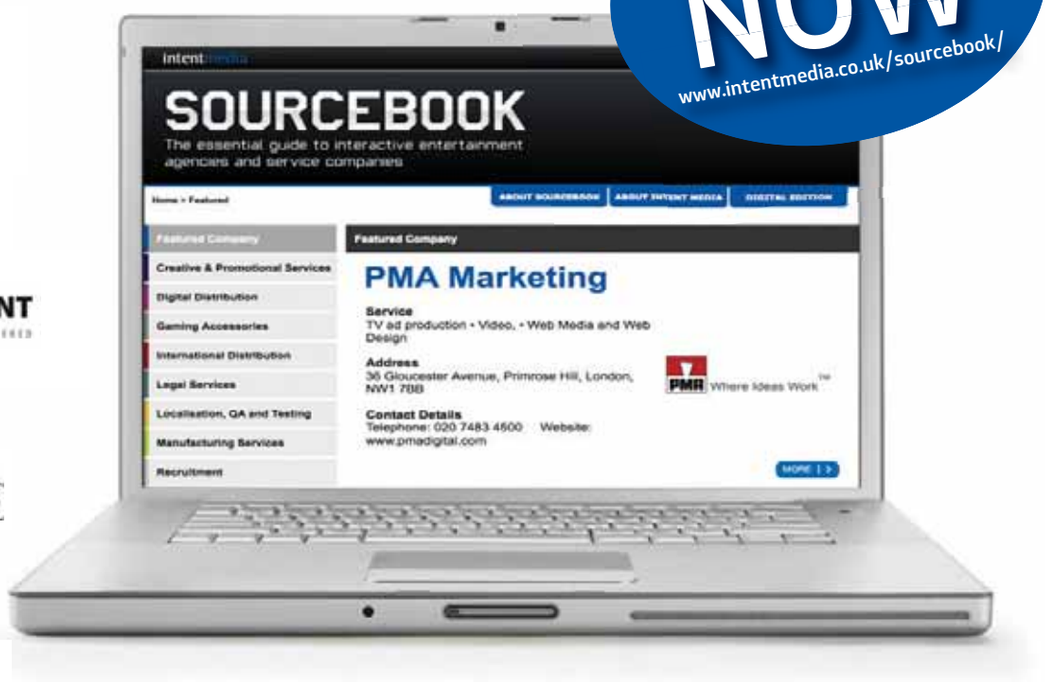

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week please contact **lucy.hall@intentmedia.co.uk**

CODA

A sideways look at the games industry

THE INDUSTRY
IN 140 CHARACTERS

A month in tweets by the industry elite

@ian_livingstone
It was an honour to receive the Legend Award at #developconf. The standing ovation was most humbling and a moment I will remember forever.
(Ian Livingstone, Eidos)
Thursday, July 21st

@jesseschell
Fuck it, I'm building utopia.
(Jesse Schell, Schell Games)
Wednesday, August 3rd

@milessi
So earlier in the week, *Football Manager* was mentioned on *Emmerdale*. And this morning, it was mentioned on *Desert Island Discs*. #surreal
(Miles Jacobson, Sports Interactive)
Sunday, July 24th

@Alekssg
Hardcore games on iPad might have a shot if the new one comes with Retina Display resolution. I might play RTS'es on it then.
(Aleksander Grøndal, EA Dice)
Thursday, August 4th

@edvaizey
Great visit to Jagex in Cambridge, a great UK gaming success story, 480 people strong and growing.
(Ed Vaizey, UK culture minister)
Tuesday, July 26th

@notch
Minecraft just sold its third million copy!
(Markus Persson, Mojang Specifications)
Friday, August 5th

@edfear
Trying to write game dev company tweets that basically aren't 'there is some interesting but secret stuff going on' is really hard
(Ed Fear, Curve Studios)
Friday, July 29th

@giordanobc
No, PopCap will not make you "a prototype of a virtual world, kinda like *Habbo Hotel*", but thank you for your email
(Giordano Contestabile, PopCap)
Friday, August 5th

@NolanBushnell
How many all nighters have you had in your life working. I remember Jobs and Woz sleeping under their desks. Hard work pays off.
(Nolan Bushnell, Atari founder)
Saturday, July 30th

@inensu
Game Testers wear the cutest clothes :) Working with the Testology team on *Closet Swap* testing.
(Official feed, Inensu)
Friday, August 5th

AN OPEN MIND

Michael Pachter

Based on his comments on crunch

Telling the audience of his *Game Trailers* show what he thinks of developers bemoaning crunch: "I've never heard a developer say 'I don't work overtime and I don't work weekends'. The number of hours; I kind of think if you're going to get into the industry and be a developer, you know you're going to work plenty of hours. [...] If your complaint is you worked overtime and didn't get paid for it, find another profession."

On *NeoGAF*, detailing his own workload, in response to the reaction to his Game Trailers comments: "I regularly work 14 hour days, and always work on the weekends. I have for the last 11 years in this job, was an investment banker before that, and held various finance jobs (including tax lawyer) before that. I put myself through school (4 degrees) while working multiple jobs, including non-union factory worker and non-union UPS dock. [...] I'm really not prepared to take any crap from anyone about how I don't "understand" working hard."

Telling Twitter about how he spends some of the rest of his time: "After 3 yrs of *Zynga Poker*, I finally get to $50 million yesterday. Today, $49 million missing. Zynga customer service put em back no hassle."

IT FIGURES: Freemium

A recent study by Visa's PlaySpan and VG Market has found that **30 per cent** of freemium game users have paid for goods while playing. Furthermore, console games with online play account for **51 per cent** of virtual purchases using real money, with social networking sites accounting for **30 per cent** and MMO games **28 per cent**. The study also found that women are **three times** more likely to use Facebook Credits to purchase virtual items than men. Of the 1,000 players questioned, about **37 per cent** of women are likely to buy virtual items to 'decorate a page, persona or avatar', whereas only **19 per cent** of men would. As well as this, the report discovered that around **48 per cent** of games users said they have purchased in-game currency in the past year. **45 per cent** said they buy virtual items once a month, and **72 per cent** said they would spend more or roughly the same as they had spent on virtual goods in the last year.

THE EGO TRIP

We ask some of the finest game development talent a series of questions about the toughest subject of all – their own work

THIS MONTH: Martin Hollis
MOST FAMOUS FOR: GoldenEye 007
ANSWERING QUESTIONS ON: Bonsai Barber

Develop introduces a new regular feature where we quiz developers from across the globe about a game they have designed or created, starting with Martin Hollis:

How many fruit and vegetable characters were there in total in Bonsai Barber?
There are 13 characters in the game, but only 12 were fruits or vegetables. **CORRECT**

What was the name of the game's strawberry character?
Strawbinski. I hope so. I should have done revision for this. I really have to get them all right. **CORRECT**

What is the name of the first character to get a haircut in the game?
Now, this is difficult as when we developed the game we kept changing this around.

It used to be Strawbinski but in the end we went for the potato guy. What was he called? It's gone. He was definitely a potato. **INCORRECT**

*(**Correct answer:** Spudsworth, who was indeed a potato)*

What was the profession or lifestyle choice of the cactus character?
He thought he was Texan, but it was fake. He was from Dagenham. I'd assumed he was probably a hairdresser, a taxman or a stenographer, but he thought he was a cowboy. **CORRECT**

What parody genre title was applied to Bonsai Barber by many press?
I know this well as it came from us. It's 'first-person groomer'. I was very pleased with that one. We all felt a bit anxious about it really, as we couldn't decide if it was too clever or not clever at all. **CORRECT**

Can you name every tool available to use in Bonsai Barbor?
Firstly there's the holy triumvirate of the scissors to destroy, the water sprayer to create, and the comb to change. Then, layered on top of that we had the paint brush, the camera and… Oh dear. It's been so long. What else do hairdressers need? We didn't have towels or razors. What about gardens? We didn't have seeds. Oh dear. I'm sure there were seven.
INCORRECT

*(**Correct answer:** Clippers, Scissors, Water Sprayer, Comb, Camera, Paintbrush, Gong Mallet)*

LEADERBOARD

1. Martin Hollis (4 /6)

Ok, Martin gets first place by default, and frankly he'll be hard to beat. But look at it this way. Currently he's also in last place.

Over the coming months you'll see this leaderboard evolve into a defining list of industry masterminds (or a high score board of game development's most ambitious egomaniacs, depending on how you look at it).

develop FORWARD PLANNER

OCTOBER 2011

Monetisation Services and Game Payments
An overview of an increasingly complicated sector

Regional Focus: Scotland
After a year of change for Scotland, we take a look at the state of play in this valued region

Events:
GDC Online – October 10th to October 13th

NOVEMBER 2011

Regional Focus: Canada
Our yearly look at the games development sector operating in BC, Quebec and everywhere in between

Events:
Montreal International Games Summit – November 1st to November 2nd

DECEMBER 2011/JANUARY 2012

30 Under 30
Develop shines its talent spotlight on the young achievers shaping the industry's future

Mocap
A detailed look at motion capture, and new trends and technology in the sector

Regional Focus: France
Movers and shakers in this diverse games development region

FEBRUARY 2012

Recruitment Special
Our annual look at the jobs market includes: Advice for CVs, portfolios and interviews; per-discipline guidance on getting a promotion; the education sector; our salary survey; and much, much more

Salary Survey
Dissecting the data to see how industry salaries are changing

Regional Focus: Cambridge
A look at current developments and new stories from the historic University town

MARCH 2012

Regional Focus: Germany
A focus on making games in Europe's largest economy

Events:
GDC – February 28th to March 4th

APRIL 2012

QA and Localisation
We take an in-depth look on this essential element of the game development process

Region focus: Nordic regions
A closer look at this growing hub, and the influence it is having on the wider industry

EDITORIAL enquiries should go through to Michael.French@intentmedia.co.uk, or call him on 01992 535646

To discuss **ADVERTISING** contact Alex.Boucher@intentmedia.co.uk, or call him on 01992 535647

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We Know Your World

THE FAQ PAGE: SIOBHAN REDDY

Develop grills respected figures from the global development sector

Siobhan Reddy is keen to see more women employed in the video games industry

Who are you and what do you do?
I am Siobhan Reddy, and I am the studio director at Media Molecule. My role is split between studio direction and games production. How we make our games is very linked to the types of games we make. I try to make sure that we have a shared direction between where the studio is going and the games we are making – then I do whatever is required to help us achieve this. So, another way of explaining it is Madame Cat Herder.

What are you working on right now?
We have just finished up on the *LittleBigPlanet2* Move pack, which is very cool. As you may know we have announced that we have started experimenting and that *LBP* won't be our sole focus anymore.

This is exciting, but brings challenges and so a lot of what I am doing right now is trying to help manage this. We will still continue to run the *LBP* services that look after people's content, and also manage the community. We love *LBP* and it's always going to be a part of us, and we will always be involved. We can't help ourselves (apologies in advance to [*LBP* Vita developers] Double 11 and Tarsier).

What was the first video game or product that you ever worked on in the industry?
I worked on *Discworld Noir* for Luci Black. I thank her regularly for hiring me, as we still work together.

What was the first video game you ever played, and did you enjoy it?
I think it may have been *Donkey Kong 2* on the Game & Watch. We grew up in South Africa and Australia so have to say video games weren't as much as part of my early years as the swimming pool.

I recall playing *Donkey Kong* with my brother and little sister in the back of the car on the then long and hot drive to Canberra. It must have been amazing as we fought like cat and dog to have our turn.

What is your favourite game ever, and for what reason?
This question is unfair. Like any form of art and entertainment there are games that suit moods and so I am not going to give you one. I am a huge *Resident Evil* fan; especially the early games. They had a great combination of puzzles, discovery, zombies and combat. Then it's very difficult to not mention things like *Monkey Island*, which made me laugh my guts out, and then *Ico*, which made me cry.

> ***"I'd love to see new mechanics and genres. I feel like we must still be at the tip of the iceburg in terms of the genres that are possible for console games experiences."***

What do you enjoy about the video games industry today?
So many things, starting with the brilliant people but extending to the fact that we have the opportunity to shape how people interact with technology in entertaining, social, creative and educational ways.

What we can do is only bounded by our imaginations. It's an industry that gets better with age and diversity.

What disappoints you about the video games industry today?
This is an industry that I love, and so one of the first things is that I believe that we have to be good to each other in the industry. There is so much to celebrate and it's easy for us to not see the amazing advances that have been made even in the last 10 years.

I am disappointed that I am very bad at moving and shooting. I'd love to see new mechanics and genres. I feel like we must still be at the tip of the iceburg in terms of the genres that are possible for console games experiences. I also think that for games companies it's just as risky to try something new as it is to go head to head in competitive genres. I'd encourage us all to try and be brave in finding these new genres and gameplay mechanics. Also, the 'are games an art form' debate; of course they are

Finally, I want to work with more women. I have had the pleasure of working for and with amazing women in the games industry, and as we grow in numbers the games get better. There are plenty of jobs going right now. Come on girls.

What hobbies or interests do you have that are unrelated to video games?
Vintage and retro design, hat making, and old books with pretty pictures.

While Media Molecule is moving on from a sole focus on LittleBigPlanet, it will continue to support the series

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Editor-in-Chief
Michael French
michael.french@intentmedia.co.uk

Online Editor
Rob Crossley
rob.crossley@intentmedia.co.uk

Designer
Adam Butler
adam.butler@intentmedia.co.uk

Deputy Editor
Will Freeman
will.freeman@intentmedia.co.uk

Sales Manager
Alex Boucher
alex.boucher@intentmedia.co.uk

Publisher
Stuart Dinsey
stuart.dinsey@intentmedia.co.uk

Staff Writer
Stuart Richardson
stuart.richardson@intentmedia.co.uk

Production Manager
Suzanne Powles
suzanne.powles@intentmedia.co.uk

Managing Editor
Lisa Foster
lisa.foster@intentmedia.co.uk

Contributors
David Braben, John Broomhall, Nick Gibson, Alistair Gray, Tim Heaton, Jack Hoxley, Will Luton, Matt Pettineo, Mark Rein, Paul Ross, Mike Simpson, Robert Troughton, Jason Zink

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Tel: 01992 535646 **Fax:** 01992 535648 **Web:**www.develop-online.net

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WWW.IMAGINATIONSTUDIOS.COM

INFO@IMAGINATIONSTUDIOS.COM

+ 46 (0) 18 10 69 30